

Chapter IX

Glossary

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Glossary

Most of the terms in this glossary were taken from, or adapted from, the glossaries of the following reports:

- A Conservation Strategy for the Northern Spotted Owl, by the Interagency Scientific Committee, May 1990.
- Alternatives for Management of Late-Successional Forests of the Pacific Northwest, by the Scientific Panel on Late-Successional Forest Ecosystems, October 1991.
- Draft Resource Management Plan and Environmental Impact Statement (for six Districts in western Oregon), by the Bureau of Land Management, August 1992.
- Final Draft Recovery Plan for the Northern Spotted Owl, by the Northern Spotted Owl Recovery Team, December 1992.
- Viability Assessments and Management Considerations for Species

Associated with Late- Successional and Old-Growth Forests of the Pacific Northwest, by the Scientific Analysis Team, March 1993.

Any remaining terms have been defined by the Forest Ecosystem Management Assessment Team.

Accretion - The process, driven by plate tectonics, whereby the continental margin grows by addition of ocean crust and sediments at a subduction zone.

Activity plan - A Bureau of Land Management document that describes management objectives, actions, and projects to implement decisions of the resource management plan or other planning documents. Usually prepared for one or more resources in a specific area.

Adaptive management - The process of implementing policy decisions as scientifically driven management experiments that test predictions and assumptions in management plans, and using the resulting information to improve the plans.

Adaptive management areas - Landscape units designated for development and testing of technical and social approaches to achieving desired ecological, economic, and other social objectives.

Adjacency requirements - Management restrictions to regulate the creation of harvest openings. An opening created by harvest must close through a new timber stand growing to a certain height before another harvest unit can be placed next to it. This requirement has led to the "staggered setting approach to timber harvest in which clearcut units, usually of 20-60 acres, are scattered over the landscape. (See Staggered setting.)

Administratively Withdrawn Areas - Areas removed from the suitable timber base through agency direction and land management plans.

Administrative units - The organizational unit used in this report for divisions in the Forest Service, the Bureau of Land Management, and the Fish and Wildlife Service.

Age class - A management classification using the age of a stand of trees.

Age specific survival rate - The average proportion of individuals in a particular age group that survive for a given period.

Airshed - A geographic area that shares the same air mass due to topography, meteorology, and climate.

Allee effect - A depression in the encounter rate between male and female owls resulting from low population densities. The probability of finding a mate drops below that required to maintain the reproductive rates necessary to support the population.

Allowable cut effect (ACE) - The expected change in the allowable sale quantity resulting from future management decisions.

Allowable sale quantity (ASQ) - The gross amount of timber volume, including salvage, that may be sold annually from a specified area over a stated period in accordance with management plans of the Forest Service or Bureau of Land Management. Formerly referred to as allowable cut.

Alluvial - Originated through the transport by and deposition from running water.

Alternative - One of several policies, plans, or projects proposed for making decisions.

Anadromous fish - Fish that are born and rear in freshwater, move to the ocean to grow and mature, and return to freshwater to reproduce. Salmon, steelhead, and shad are examples.

Analysis of the management situation (AMS) - A document that summarizes important information about existing resource conditions, uses, and demands as well as existing management activities. It provides the baseline for subsequent steps in the planning process, such as the design of alternatives and affected environment.

Analytical watershed - For planning purposes, a drainage basin subdivision used for analyzing cumulative impacts on resources.

Animal damage - Physical damage to forest tree seed, seedlings, and young trees through seed foraging, browsing, cutting, rubbing, or trampling, by mammals and birds.

Animal unit month (AUM) - The amount of forage necessary for the sustenance of one cow or its equivalent for 1 month.

Aquatic ecosystem - Any body of water, such as a stream, lake or estuary, and all organisms and nonliving components within it, functioning as a natural system.

Aquatic habitat - Habitat that occurs in free water.

Arboreal - Living **in the canopies** of trees.

Archaeological site - A geographic locale that contains the material remains of prehistoric and/or historic human activity.

Area of critical environmental concern (ACEC) - Bureau of Land Management lands where special management attention is needed to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish, and wildlife resources or other natural systems or processes or to protect life and provide safety from natural hazards. (See Potential ACEC.)

Area of critical mineral potential - An area nominated by the public as having mineral resources or potential importance to the local, regional, or national economy.

Area regulation - A method of scheduling timber harvest based on dividing the total acres by an assumed rotation.

Aspect - The direction a slope faces with respect to the cardinal compass points.

Associated species - A species found to be numerically more abundant in a particular forest successional stage or type compared to other areas.

At-risk fish stocks - Stocks of anadromous salmon and trout that have been identified by professional societies, fish management agencies, and in the scientific

literature as being in need of special management consideration because of low or declining populations.

Automated resource data (ARD) - Computerized map data used for the management of resources.

Available forest land - That portion of the forested acres for which timber production is planned and included within the acres contributing to the allowable sale of quantity. This includes both lands allocated primarily to timber production and lands on which timber production is a secondary- objective.

Awarded sales - Federal timber sales that have been let to the successful bidder through a formal contract.

Back country byway - A road segment designated as part of the National Scenic Byway System.

Basal area - The area of the cross section of a tree stem including the bark, near its base, generally at breast height, or 4.5 feet above the ground.

Baseline - The starting point for analysis of environmental consequences. This may be the conditions at a point in time (e.g., when inventory data are collected) or may be the average of a set of data collected over a specified period of years.

Basic resource unit (BRU) - A term used in TRIM- PLUS for the smallest unit of timberland that has been identified in the inventory.

Basin programs - State administrative rules that establish types and amounts of water uses allowed in the state's major river basins and that form the basis for issuing water rights.

Beneficial use - In water use law, reasonable use of water for a purpose consistent with the laws and best interest of the people of the state. Such uses include, but are not limited to, the following: instream, out of stream, and ground water uses, domestic, municipal, industrial water supply, mining, irrigation, livestock watering, fish and aquatic life, wildlife, fishing, water contact recreation, aesthetics and scenic attraction hydropower, and commercial navigation.

Best management practices (BMP) - Methods, measures, or practices designed to prevent or reduce water pollution. Not limited to structural and nonstructural controls, and procedures for operations and maintenance. Usually, BMPs are applied as a system of practices rather than a single practice.

Big game - Large mammals that are hunted by humans. Big game include elk, black tailed deer, and black bear.

Biological corridor - A habitat band linking areas of similar management and/or habitat type.

Biological diversity - The variety of life forms and processes, including a complexity of species, communities, gene pools, and ecological functions.

Biological growth potential - The average net growth of trees in a fully stocked natural forest stand.

Biological legacies - Large trees, down logs, snags, and other components of the forest stand left after harvesting for the purpose of maintaining site productivity and providing structures and ecological functions in subsequent stands.

Biological opinion - The document resulting from formal consultation that states the opinion of the Fish and Wildlife Service or National Marine Fisheries Service as to whether or not a federal action is likely to jeopardize the continued existence of listed species or results in destruction or adverse modification of critical habitat.

Biological unit management - Forest Service usage. Any unit for management of a particular species or any unit of intensive or special management. The term includes any big-game management unit as recognized by a cooperating state, even though it may not be strictly a herd unit. For fisheries management, the term may include a drainage system.

Biomass - The total quantity (at any given time) of living organisms of one or more species per unit of space (species biomass), or of all the species in a biotic community (community biomass).

Birth-pulse population - A population assumed to produce all of its offspring at an

identical and instantaneous point during the annual cycle.

Block (of forest, habitat) - Geographic area of trees or vegetation that is distinct from surrounding conditions. Block size may vary greatly.

Blowdown - Trees felled by high winds.

Board foot (BF) - Lumber or timber measurement term. The amount of wood contained in an unfinished board 1 inch thick, 12 inches long, and 12 inches wide.

Breast height - A standard height from ground level for recording diameter, girth, or basal area of a tree, generally 4.5 feet.

Broadcast burn - Allowing a prescribed fire to burn over a designated area within well defined boundaries for reduction of fuel hazard or as a silvicultural treatment, or both.

Buffer - Used in the context of marbled murrelet standards and guidelines, a forested area located adjacent to suitable (nesting) marbled murrelet habitat that reduces dangers of having sharply contrasting edges of clearcuts next to such habitat. Dangers include risk of wind damage to nest trees and young, increased predation, and loss of forest interior conditions.

Bureau assessment species - Plant and animal species on list 2 of the Oregon Natural Heritage Data Base, or those species on the Oregon List of Sensitive Wildlife Species (OAR 635-100-040), which are identified in Bureau of Land Management Instruction Memo No. OR-91-57, and are not included as federal candidate, state listed, or Bureau sensitive species.

Bureau of Indian Affairs (BIA) - A division within the U.S. Department of the Interior.

Bureau of Land Management (BLM) - A division within the U.S. Department of the Interior.

Bureau sensitive species - Plant or animal species eligible for federal listed, federal candidate, state listed, or state candidate (plant) status, or on list I in the

Oregon Natural Heritage Data Base, or approved for this category by the state director.

Cambium - The layer of tissue between the bark and wood in a tree or shrub. New bark and wood originate from this layer.

Candidate Species - Those plants and animals included in Federal Register Notices of Review that are being considered by the Fish and Wildlife Service for listing as threatened or endangered. Two categories that are of primary concern:

Category 1. Taxa for which there is substantial information to support proposing the species for listing as threatened or endangered. Listing proposals are either being prepared or have been delayed by higher priority listing work.

Category 2. Taxa information indicates that listing is possibly appropriate. Additional information is being collected.

Canopy - A layer of foliage in a forest stand. It most often refers to the uppermost layer of foliage, but it can be used to describe lower layers in a multistoried stand.

Canopy closure - The degree to which the canopy (forest layers above one's head) blocks sunlight or obscures the sky. It can only be accurately determined from measurements taken under the canopy as openings in the branches and crowns must be accounted for.

Capability - The potential of an area of land to produce resources, supply goods and services, and allow resource uses. Capability depends upon current vegetation conditions and site conditions such as climate, slope, landform, soils, and geology.

Capture history - A record of the recaptures or resightings of a marked individual.

Carrying capacity - The maximum number of organisms that can be supported in a given area of habitat at a given time.

Casual use - Activities ordinarily resulting in negligible disturbance of federal

lands and resources.

Catastrophic event - A large-scale, high-intensity natural disturbance that occurs infrequently.

Cavity excavator - A wildlife species that digs or chips out cavities in wood to provide a nesting, roosting, or foraging site.

Cavity nester - Wildlife species, most frequently birds, that require cavities (holes) in trees for nesting and reproduction.

Center of activity - The nest site of a breeding pair of owls or primary roost area of a territorial individual owl.

Characteristic landscape - The established landscape within an area being viewed. This does not necessarily mean a naturalistic character. It could refer to an agricultural setting, an urban landscape, a primarily natural environment, or a combination of these types.

Cirque - A steep-headed, semicircular basin at the head of a channel of and created by a former valley glacier.

Class F (fire) - A fire that extends over an area ranging from 300 to 1,000 acres.

Class I (air quality) areas - Special *areas* (e.g., National Parks, certain wilderness areas) protected for their air quality related values.

Classic old growth - Forest stands with unusually old and large trees that also meet criteria for old-growth forests (See Old-growth forest.)

Clearcut - A harvest in which all or almost all of the trees are removed in one cutting.

Clearcut harvest - A timber harvest method in which all trees are removed in a single entry from a designated area, with the exception of wildlife trees or snags, to create an even-aged stand.

Climax - The culminating stage in plant succession for a given site where the vegetation has reached a highly stable condition.

Closed discretionary - Areas closed to mineral exploration and development by authority of law or regulation, but where such lands can be opened by, action of the Bureau of Land Management without legislation, regulation change, Secretarial decision or Executive Order.

Closed nondiscretionary - Areas specifically closed to mineral exploration and development by authority of law, regulation, Secretarial decision (including public land orders), or Executive Order.

Closed sapling pole - Sapling and pole stand that are characterized by a closed tree canopy and minimal little ground cover. Tree closure will exceed 60 percent and often reaches 100 percent.

Checkerboard ownership - A land ownership pattern in which every other section (square mile) is in federal ownership as a result of federal land grants to early western railroad companies.

Closely associated species - A species is designated as "closely associated with a forest successional stage if the species is found to be significantly more abundant in that forest successional stage compared to the other successional stages, if it is known to occur almost exclusively in that successional stage, or if it uses habitat components that are usually produced at that stage.

Cluster - An area that contains habitat capable of supporting three or more breeding pairs of spotted owls with overlapping or nearly overlapping home ranges.

Coarse woody debris (CWD) - Portion of a tree that has fallen or been cut and left in the woods. Usually refers to pieces at least 20 inches in diameter.

Coastal Oregon Productivity Enhancement Program (COPE) - A cooperative research and education program to identify and evaluate existing and new opportunities to enhance long-term productivity and economic/social benefits derived from the forest resources of coastal Oregon.

Code of Federal Regulations (CFR) - A codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the federal government.

Cohort - Individuals all resulting from the same birth-pulse, and thus all of the same age.

Colonization - The establishment of a species in an area **not** currently occupied by that species. Colonization often involves dispersal across an area of unsuitable habitat.

Commercial forest land - Land declared suitable for producing timber crops and not withdrawn from timber production for other reasons.

Commercial thinning - The removal of generally merchantable trees from an even-aged stand, usually to encourage growth of the remaining trees. (See Even-aged silviculture.)

Commercial tree species - Conifer species used to calculate the commercial forest land allowable sale quantity. They are typically utilized as saw timber and include species such as Douglas-fir, hemlock, spruce, fir, pine, and cedar. (See Noncommercial tree species.)

Commodity resources - Goods or products of economic use or value.

Community - Pertaining to plant or animal species living in close association and interacting as a unit.

Community stability - The capacity of a community (incorporated town or county) to absorb and cope with change without major hardship to institutions or groups within the community.

Community water system - See Public water system.

Concern - A topic of management or public interest that is not well enough defined to become a planning issue, or does not involve controversy or dispute over resource management activities or land use allocations or lend itself to designating

land use alternatives. A concern may be addressed in analysis, background documents, or procedures or in a noncontroversial decision.

Conferencing - Informal discussion or correspondence consultation that takes place between the U.S. Fish and Wildlife Service and another federal agency when it is determined that a proposed federal action may jeopardize the continued existence of a species proposed as threatened or endangered or result in adverse modification of proposed critical habitat.

Confidence interval - An interval that is calculated from a series of samples intended to estimate the value of a parameter. The confidence level is the probability that the true value of the parameter falls within the confidence interval.

Confidence level - The probability that the true value for a parameter is included within the confidence interval calculated for a sample of that parameter.

Congressionally Withdrawn Areas - Areas that require Congressional enactment for their establishment, such as National Parks, Wild and Scenic Rivers, National Recreation Areas, National Monuments, and Wilderness.

Conifer - A tree belonging to the order Gymnospermae, comprising a wide range of trees that are mostly evergreens. Conifers bear cones (hence, coniferous) and needle-shaped or scalelike leaves.

Connectivity - A measure of the extent to which conditions among LS/OG forest areas provide habitat for breeding, feeding, dispersal, and movement of LS/OG-associated wildlife and fish species. (See LS/OG forest.)

Conservation - The process or means of achieving recovery of viable populations.

Conservation area - Designated land where conservation strategies are applied for the purpose of attaining a viable plant or animal population.

Conservation recommendations - Suggestions by the Fish and Wildlife Service or National Marine Fisheries Service in biological opinions regarding discretionary measures to minimize or avoid adverse effects on a proposed action of federally listed threatened or endangered species or designated critical habitat.

Conservation strategy - A management plan for a species, group of species, or ecosystem that prescribes standards and guidelines that if implemented provide a high likelihood that the species, groups of species, or ecosystem, with its full complement of species and processes, will continue to exist well-distributed throughout a planning area, i.e., a viable population.

Consistency - Under the Federal Land Policy and Management Act, the adherence of Bureau of Land Management resource management plans to the terms, conditions, and decisions of officially approved and adopted resource related plans or, in their absence, with policies and programs of other federal agencies, state and local governments and Indian tribes, so long as the plans are also consistent with the purposes, policies, and programs of federal laws and regulations applicable to Bureau of Land Management lands. Under the Coastal Zone Management Act, the adherence to approved state management programs, to the maximum extent practicable, of federal agency activities affecting the defined coastal zone.

Constrained Timber Production Base - Acreage managed for timber production at less than full intensity in consideration of nontimber resource management objectives.

Consultation - A formal interaction between the U.S. Fish and Wildlife Service and another federal agency when it is determined that the agency's action may affect a species that has been listed as threatened or endangered or its critical habitat.

Contiguous habitat - Habitat suitable to support the life needs of species that is distributed continuously or nearly continuously across the landscape.

Coos Bay Wagon Road (CBWR) lands - Public lands granted to the Southern Oregon Company and subsequently reconveyed to the United States.

Core area - That area of habitat essential in the breeding, nesting and rearing of young, up to the point of dispersal of the young.

Corridor - A defined tract of land, usually linear, through which a species must travel to reach habitat suitable for reproduction and other life-sustaining needs.

Cost efficiency - The usefulness of species inputs (costs) to produce specified outputs (benefits). In measuring cost efficiency some outputs, including environmental, economic, or social impacts, are not usually assigned monetary values, but are achieved at specified level in the least costly manner. Cost efficiency usually is measured using present net value, although use of benefit-cost ratios and rates of return may be appropriate.

Cover - Vegetation used by wildlife protection from predators, or to mitigate weather conditions, or to reproduce. May also refer to the protection of the soil and the shading provided to herbs and forbs by vegetation.

Critical habitat - Under the Endangered Species Act, critical habitat is defined as (1) the specific areas within the geographic area occupied by a federally listed species on which are found physical and biological features essential to the conservation of the species, and that may require special management considerations or protection; and (2) specific areas outside the geographic area occupied by a listed species, when it is determined that such areas are essential for the conservation of the species.

Critical link - In this report, geographic areas between physiographic provinces that represent most likely avenues for dispersing spotted owls provided habitat conditions are favorable for such movement.

Crown - The upper part of a tree or other woody plant that carries the main system of branches and the foliage.

Crown cover - The degree to which the crowns of trees are nearing general contact with one another. Generally measured as the percentage of the ground surface that would be covered by a downward vertical projection of foliage in the crowns of trees.

Crucial habitat - Habitat that is basic to maintaining viable populations of fish or wildlife during certain seasons of the year or specific reproduction periods.

Crude density - The number of individuals in an area.

Cubic foot - A unit of solid wood, 1 foot square and 1 foot thick.

Cull - A tree or log that does not meet merchantable specifications.

Culmination of mean annual increment (CMAI) - The peak of average yearly growth in volume of a forest stand (total volume divided by age of stand).

Cultural resource - Any definite location of past human activity identifiable through field survey, historical documentation, or oral evidence. This includes archaeological or architectural sites, structures, or places, and places of traditional cultural or religious importance to specified groups whether or not represented by physical remains.

Cultural site - Any location that includes prehistoric and/or historic evidence of human use or that has important sociocultural value.

Cumulative effects - Those effects on the environment that result from the incremental effect of the action when added to the past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

Debris flow (debris torrent) - A rapid moving mass of rock fragments, soil, and mud, with more than half of the particles being larger than sand size.

Debris slide - A slow to rapid slide, involving downslope translation of relatively dry and predominantly unconsolidated materials, with more than half of the particles being larger than sand size.

Debris torrent - Rapid movement of a large quantity of materials (wood and sediment) down a stream channel during storms or floods. This generally occurs in smaller streams and results in scouring of streambed.

Decommission - To remove those elements of a road that reroute hillslope drainage and present slope stability hazards. Another term for this is "hydrologic obliteration."

Defoliators - Insects that feed on foliage and act to remove some or all of the foliage from a tree, shrub, or herb.

Demographic model - A model that predicts the future state of an animal population based on its birth and death rates.

Demographic stochasticity - Random fluctuations in birth and death rates.

Demography - The quantitative analysis of population structure and trends; population dynamics.

Density, biological population - The number or size of a population in relation to some unit of space. It is usually expressed as the number of individuals or the population biomass per unit area or volume.

Density-dependent - A process, such as fecundity, whose value depends on the number of animals in the population per unit area.

Density management - In Bureau of Land Management draft planning documents of 1992, the cutting of trees for the primary purpose of widening their spacing so that growth of remaining trees can be accelerated. The Bureau also plans to use density management to improve forest health, to open the forest canopy, or to accelerate the attainment of old-growth characteristics if maintenance or restoration of biological diversity is the objective.

Density study area - An area in which the objective is to count all individuals that are present, thereby monitoring population trend over time.

Departure (from even flow) - A timber sale level that deviates from sustainable sale levels through a planned temporary increase or decrease in the allowable sale quantity. Must be economically and biologically justified.

Depauperate - Poorly developed. In biology, it usually refers to an area that has relatively few plant and animal species.

Designated area - An area identified in the Oregon Smoke Management Plan as a principal population center requiring protection under state air quality laws or regulations.

Designated conservation area (DCA) - A contiguous area of habitat to be

managed and conserved for spotted owls under the Final Draft Recovery Plan for the Northern Spotted Owl. This general description can be applied to two DCA categories:

DCA 1 - Category intended to support at least 20 pairs of spotted owls.

DCA 2 - Category intended to support one to 19 pairs of spotted owls.

Desired future condition - For this report, an explicit description of the physical and biological characteristics of aquatic and riparian environments believed necessary to meet fish, aquatic ecosystem, and riparian ecosystem objectives.

Developed recreation site - A site developed with permanent facilities designed to accommodate recreation use.

df - Degree of freedom, which is usually the sample, n , minus 1 (i.e., $n-1$)

Diameter at breast height (DBH) - The diameter of a tree 4.5 feet above the ground on the uphill side of the tree.

Dispersal - The movement, usually one way and on any time scale, of plants or animals from their point of origin to another location where they subsequently produce offspring.

Dispersal capability - The ability of members of a species to move from their area of birth to another suitable location and subsequently breed.

Dispersal distance - A straight-line distance that an individual travels from its birth place until it stops dispersing (assumed to be a breeding site) or dies.

Dispersal habitat - Habitat that supports the life needs of an individual animal during dispersal. Generally satisfies needs for foraging, roosting, and protection from predators.

Dispersed recreation - Outdoor recreation in which visitors are diffused over

relatively large areas. Where facilities or developments are provided, they are primarily for access and protection of the environment rather than comfort or convenience of the user.

Dissected - Cut by erosional processes into hills and valleys, or into flat interstream areas and valleys.

Distribution (of a species) - The spatial arrangement of a species within its range.

Disturbance - A force that causes significant change in structure and/or composition through natural events such as fire, flood, wind, or earthquake, mortality caused by insect or disease outbreaks or by human-caused events, e.g., the harvest of forest products.

Diversity - The variety, distribution, and abundance of different plant and animal communities and species within an area. (See Biological diversity.)

Down log - Portion of a tree that has fallen or been cut and left in the woods. Particularly important as habitat for some LS/OG-associated species.

Domestic water supply - Water used for human consumption.

Dominant use - The guiding principle for the management of all O&C (Oregon and California Railroad) lands inventoried as "suitable commercial forest land whereby such lands are to be managed primarily for timber production on a sustained yield basis with due consideration for the other forest uses identified in the O&C Act and subject to any relevant requirements specified in subsequent legislation. (Examples of such subsequent legislation are the Endangered Species Act and the Federal Water Pollution Control Act).

Draft environmental impact statement (DEIS) - The draft statement of environmental effects that is required for major federal action under Section 102 of the National Environment Policy Act, and released to the public and other agencies for comment and review.

Drainage - An area (basin) mostly bounded by ridges or other similar topographic features, encompassing part, most, or all of a watershed and enclosing some 5,000

acres. (See Subdrainage and Forest watershed.)

Duff layer - The layer of loosely compacted debris underlying the litter layer on the forest floor.

Early seral stage forests - Stage in forest development that includes seedling, sapling, and pole-sized trees.

Farthflow - A mass-movement landform and slow to rapid process characterized by downslope translation of soil and weathered rock over a discrete shear zone at the base, with most of the particles being smaller than sand.

East-side forests - The 12 National Forests in Washington, Oregon, and California that lie partly or wholly east of the Cascade Mountain Range crest: Colville, Deschutes, Fremont, Klamath, Malheur, Ochoco, Okanogan, Shasta-Trinity, Umatilla, Wallowa-Whitman, Wenatchee, and Winema National Forest.

Ecological health - The state of and ecosystem in which processes and functions are adequate to maintain diversity of biotic communities commensurate with those initially found there.

Ecologically significant - Species, stands, and forests considered important to maintaining the structure, function, and processes of particular ecosystems.

Economically feasible - Having costs and revenues with a present net value greater than zero.

Ecosystem - A unit comprising interacting organisms considered together with their environment (e.g., marsh, watershed, and lake ecosystems).

Ecosystem diversity - The variety of species and ecological processes that occur in different physical settings.

Ecosystem management - A strategy or plan to manage ecosystems to provide for all associated organisms, as opposed to a strategy or plan for managing individual species.

Edge - Where plant communities meet or where successional stages or vegetative conditions with plant communities come together.

Edge contrast - A qualitative measure of the difference in structure of two adjacent vegetated areas (e.g., "low, "medium, or "high edge contrast).

Edge effects - The drastically modified environmental conditions along the margins, or "edges, of forest patches surrounded partially or entirely by harvested lands. These conditions may extend 600 feet or more into the forest from the harvest boundary. Only forested areas at substantial distances from the edge (generally, the center of a forest patch of 100 acres or more) provide unmodified interior forest conditions.

Effective old-growth-habitat - Old-growth forest largely unmodified by external environmental influences (e.g., wind, temperature, encroachment of nonresident species) from nearby, younger forest stands. Also referred to as interior habitat. For purposes of analysis, assumed to be at least 400 feet from an edge with an adjacent stand younger than age class 70.

Eligible river - A river or river segment found through interdisciplinary team and, in some cases, interagency review, to meet Wild and Scenic River Act criteria of being free-flowing and possessing one or more outstandingly remarkable values.

Emigration - Permanent movement of individuals of a species from a population.

Employment effect - The estimated total number of jobs that will be lost or gained because of a change in the harvest level, including timber-industry jobs and other manufacturing and nonmanufacturing jobs dependent on timber harvest.

Endangered species - Any species of plant or animal defined through the Endangered Species Act as being in danger of extinction throughout all or a significant portion of its range, and published in the Federal Register.

Endemic - A species that is unique to a specific locality.

Environmental analysis - An analysis of alternative actions and their predictable short-term and long-term environmental effects, incorporating physical, biological,

economic, and social considerations.

Environmental assessment (EA) - A systematic analysis of site-specific activities used to determine whether such activities have a significant effect on the quality of the human environment and whether a formal environmental impact statement is required; and to aid an agency's compliance with the National Environmental Policy Act when no environmental impact statement is necessary.

Environmental impact - The positive or negative effect of any action upon a given area or resource.

Environmental impact statement (EIS) - A formal document to be filed with the Environmental Protection Agency that considers significant environmental impacts expected from implementation of a major federal action.

Environmental Protection Agency - An independent agency of the U.S. government (cabinet-level status is pending).

Environmental stochasticity - Random variation in environmental attributes such as temperature, precipitation, and fire frequency.

Ephemeral streams - Streams that contain running water only sporadically, such as during and following storm events.

Epiphyte - A plant that grows upon another plant and that is nonparasitic. Most of the plant's necessary moisture and nutrients are derived from the atmosphere.

Established stand - A reforestation unit of suitable trees that are past the time when considerable juvenile mortality occurs. The unit is no longer in need of measures to ensure survival but is evaluated for measures to enhance growth.

Even-aged forest - A forest stand comprising trees with less than a 20-year difference in age.

Even-aged silviculture - Manipulation of a forest stand to achieve a condition in which trees have less than a 20-year age difference. Regeneration in a particular stand is obtained during a short period at or near the time that a stand has reached

the desired age or size for harvesting. Clearcut, shelterwood, or seed tree cutting methods produce even-aged stands.

Experimental forests - Forest tracts, generally on National Forests, designated as areas where research and experiments involving forestry, wildlife, and related disciplines can be conducted.

Existing stand condition (ESC) - An artificial classification that groups forest stands with similar management potential into categories matched to tables expressing yield at various stand ages under various combinations of silvicultural treatment.

Extended rotation - A period of years that is longer than the time necessary to grow timber crops to a specified condition of maturity. (See Rotation).

Extended rotation age - A point in time when trees are harvested or planned to be harvested that is beyond the age when harvest ordinarily would occur. (See Rotation age.)

Extensive recreation management areas (ERMA) - All Bureau of Land Management lands outside special recreation management areas. These areas may include developed and primitive recreation sites with minimal facilities.

Extinct species - A species that no longer exists.

Extirpation - The elimination of a species from a particular area.

Extirpation risk species - Those species that were generally ranked as having a medium-low or low viability over a 50-year period. Extirpation related to local extinction of a species from one or more National Forests within the range of the northern spotted owl.

Fault - A break or shear in the continuity of a body of rock on which there has been an observable displacement of the two parts.

Fecundity - Number of female young produced per adult female in the population of interest.

50-11-40 rule - One of the standards and guidelines of the Interagency Scientific Committee strategy designed to provide dispersal habitat for northern spotted owls on lands outside reserves. Calls for maintaining 50 percent of forested land within each quarter township (9 square miles) in forested condition with stands of trees averaging at least 11 inches diameter at breast height and with a stand canopy closure of at least 40 percent.

Final Draft Recovery Plan for the Northern Spotted Owl - A management plan developed under the authority of the Endangered Species Act that sets forth management standards and population or other biological objectives for listed species. Implementation of such plans has a high likelihood that the species population and/or distribution will improve to the point listing is no longer appropriate.

Final environmental impact statement (FEIS) - The final report of environmental effects of proposed action on an area of land. This is required for major federal actions under Section 102 of the National Environmental Policy Act. It is a revision of the draft environmental impact statement to include public and agency responses to the draft.

Fire regime - The characteristic frequency, extent, intensity, severity, and seasonality of fires in an ecosystem.

Fire severity - The degree to which a site has been altered or disrupted by fire. Severity reflects fire intensity and residence time.

Fire suppression - The practice of controlling and extinguishing wild fires.

Fire-tolerant species - Plant species that have evolved to survive low-intensity ground fires.

Fish and Wildlife Service (F&WS) - A division within the U.S. Department of the Interior.

Floaters - Nonbreeding adults and subadults that move and live within a breeding population, often replacing breeding adults that die; nonterritorial individuals.

Floodplain - Level lowland bordering a stream or river onto which the flow spreads

at flood stage.

Food chain - Organisms that are interrelated in their feeding habits, each feeding upon organisms that are lower in the chain and in turn being fed on by organisms higher in the chain.

Forest canopy - The cover of branches and foliage formed collectively by the crowns of adjacent trees and other woody growth.

Forest fragmentation - The change in the forest landscape, from extensive and continuous forests of old-growth to a mosaic of younger stand conditions.

Forest land - Land that is now, or is capable of becoming, at least 10 percent stocked with forest trees and that has not been developed for nontimber use.

Forest landscape - Land presently forested or formerly forested and not currently developed for nonforest use.

Forest matrix - Forest lands between designated areas managed primarily for spotted owl habitat.

Forest not suitable for timber production - Forest withdrawn from commercial timber production. (See Reserved land.)

Forest plan - A land management plan designed and adopted to guide forest management activities on a National Forest or Bureau of Land Management District.

Forest succession - The orderly process of change in a forest as one plant community or stand condition is replaced by another, evolving toward the climax type of vegetation.

Forest suitable for timber production - Forest identified as appropriate for commercial timber production. Generally, this area equals the forest tentatively suitable for timber production minus further withdrawals to protect fish and wildlife, watersheds, and other resources, to pursue multiple- use objectives reflecting scenic quality, dispersed recreation, and other values, or to avoid situations in which the benefits of timber production are less than the costs.

Forest Service - A division within the U.S. Department of Agriculture.

Forest Ecosystem Management Assessment Team - As assigned by President Clinton, the team of scientists, researchers, and technicians from seven federal agencies who created this report.

Forest tentatively suitable for timber production - Total forest minus forests (1) legally withdrawn from production (e.g., Wilderness) or (2) judged too unstable for timber harvest, too difficult to regenerate, or too unproductive.

Forest watershed - The forested drainage area contributing water, organic matter, dissolved nutrients, and sediments to a lake or stream.

Fractured - A rock mass separated into distinct fragments.

Fragile nonsuitable - A classification indicating forest land having fragile conditions, and harvesting such lands would result in reduced future productivity even if special harvest or restrictive measures were applied. These fragile conditions are related to soils, geological structure, topography, and ground water.

Fragmentation - The process of reducing size and connectivity of stands that compose a forest.

Fragmentation (of LS/OG stands) - The process of reducing the size and connectivity of LS/OG areas.

Fuel loading - The amount of combustible material present per unit of area, usually expressed in tons per acre.

Full log suspension - Suspension of the entire log above the ground during yarding operations.

Functional LS/OG network - A connected series of blocks of late-successional and/or old-growth forest that, because of their size, their distribution, and the presence of certain environmental conditions, provide habitat for viable populations of associated plant and animal species.

Genetic diversity - The variety within populations of a species.

Geomorphic - Pertaining to the form or shape of and those processes that affect the surface of the earth.

Geographic information system (GIS) - A computer system capable of storing and manipulating spatial (i.e., mapped) data.

Granitic - Any light-colored, coarse-grained rock formed at considerable depth by crystallization of molten rock.

Green tree - A live and growing tree.

Green tree retention - A stand management practice in which live trees as well as snags and large down wood are left as biological legacies within harvest units to provide habitat components over the next management cycle. There are two levels:

High level - A regeneration harvest designed to retain the highest level of trees possible while still providing enough disturbance to allow regeneration and growth of the naturally occurring mixture of tree species. Such harvest should allow for the regeneration of intolerant and tolerant species. Harvest design would also retain cover and structural features necessary to provide foraging and dispersal habitat for mature and old-growth dependant species.

Low level - A regeneration harvest designed to retain only enough green trees and other structural components (snag, coarse woody debris, etc.) to result in the development of stands that meet old-growth definitions within 100 to 120 years after harvest entry, considering overstory mortality.

Gross yarding - Removal of all woody material of specified size from a logging unit to a landing.

Group selection cutting - Removal of groups of trees ranging in size from a fraction of an acre up to about 2 acres. Area cut is smaller than the minimum feasible under even-aged management for a single stand.

Guideline - A policy statement that is not a mandatory requirement (as opposed to a standard, which is mandatory).

Habitat - The place where a plant or animal naturally or normally lives and grows.

Habitat capability - The estimated number of pairs of spotted owls that can be supported by the kind, amount, and distribution of suitable habitat in the area. As used in the Final Draft Recovery Plan for the Northern Spotted Owl, this means the same as capability to support spotted owl pairs.

Habitat conservation area (HCA) - As proposed by the Interagency Scientific Committee, a contiguous block of habitat to be managed and conserved for breeding pairs, connectivity, and distribution of owls. Application may vary throughout its range according to local conditions.

Habitat conservation plan (HCP) - An agreement between the Secretary of the Interior and either a private entity or a state that specifies conservation measures that will be implemented in exchange for a permit that would allow taking of a threatened or endangered species.

Habitat diversity - The number of different types of habitat within a given area.

Habitat fragmentation - The breaking up of habitat into discrete islands through modification or conversion of habitat by management activities.

Hamilton Report - A federal assessment of the economic impact of the Interagency Scientific Committee strategy.

Hard snag - A recently dead standing tree that typically still has an intact top, a high degree of bark cover, and most limbs. Hard snags are required by a number of wildlife species, including cavity nesters.

Hardwood site - A forest site occupied by hardwoods that is unsuitable for the production of conifer species.

Harvest cutting method - Methods used to harvest trees. Harvest cutting methods are classified as even-aged and uneven-aged.

Harvest scheduling analysis - An analysis of the harvest level possible over time under assumptions about the land available for timber production, land productivity,

management intensity, and fluctuation in harvest level permitted from period to period.

Hazardous Materials - Anything that poses a substantive present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Helicopter logging - Use of helicopters to transport logs from where they are felled to a landing.

Hiding cover - Generally, any vegetation used by wildlife for security or to escape from danger. More specifically, any vegetation capable of providing concealment (e.g., hiding 90 percent of an animal) from human view at a distance of 200 feet or less.

High-grading - Timber removal that focuses on the largest, most commercially valuable trees. This practice often leaves a stand composed of trees in poor condition and may result in a change in tree species' composition.

High-lead cable system - A harvest technology where cut logs are suspended above the ground and transported to a landing.

High severity fire - A wildfire event with acute ecological impacts; usually, but not always of high intensity.

High viability risk species - In this report, those species that were generally ranked as less than high or medium-high viability over a 50-year period.

Historic site - A cultural resource resulting from activities or events dating to the historic period, generally post 1830 AD in western Oregon.

Home range - The area that an animal traverses in the scope of normal activities. This is not to be confused with territory, which is the area an animal defends.

Home range of a pair - The sum of the home ranges of each member of a pair minus the area of home range overlap.

Horizontal diversity - The distribution and abundance of plant and animal communities and successional stages across an area of land. The greater the number of communities, the higher the degree of horizontal diversity.

Hummocky - A landscape characterized by small, well-drained areas rising above the general level of poorly drained land.

Hybrid - An offspring that results from the mating of individuals of different races or species.

Hybridization - The crossing or mating of two different varieties of plants or animals.

Hyporheic zone - The area under the stream channel and floodplain that contributes to the stream.

Immigration - Movement of individuals into a population.

Impact - A spatial or temporal change in the environment caused by human activity.

Improved seed - Seed originated from a seed orchard or selected tree(s) whose genetic superiority in one or more characteristics important to forestry has been proven by tests conducted in specific environments.

Inbreeding - Mating or crossing of individuals more closely related than average pairs in the population.

Incidental take - Take of a threatened or endangered species that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. (See Take.)

Income effect - The estimated total amount of personal income that will be lost or gained because of a change in the harvest level, including income from displaced workers and workers employed at lower wages as well as the impact of "cooling the labor market through increased labor supplies. (See Employment effect.)

Infiltration (soil) - The movement of water through the soil surface into the soil.

Ingrowth - The period after successional growth of a forest stand when it reaches a specified age or structure class. For instance, spotted owl foraged habitat.

Inholding - Land belonging to one landowner that occurs within a block of land belonging to another. For example, small parcels of private land that occur inside National Forest.

Inner gorge - A stream reach bounded by steep valley walls that terminate upslope into a more gentle topography. Common in areas of rapid stream downcutting or uplift, such as northern California and southwestern Oregon.

Instant study area - A natural area formally identified by the Bureau of Land Management for accelerated wilderness review by notice published before October 21, 1975.

Integrated pest management (IPM) - A systematic approach that uses a variety of techniques to reduce pest damage or unwanted vegetation to tolerable levels. IPM techniques may include natural predators and parasites, genetically resistant hosts, environmental modifications, and when necessary and appropriate, chemical pesticides or herbicides.

Integrated vegetation management - See Integrated pest management.

Intensive forest management practices - The growth-enhancing practices of release, precommercial thinning, commercial thinning, and fertilization, designed to obtain a high level of timber volume or quality.

Intensively managed timber stands - Forest stands managed to obtain a high level of timber volume or quality through investment in growth-enhancing practices, such as precommercial thinning, commercial thinning, and fertilization. Not to be confused with the allocations of "lands available for intensive management of forest products.

Intensive timber production base - All commercial forest land allocated to timber production and intensively managed to obtain a high level of timber volume or quality.

Interagency Northern Spotted Owl Conservation Group (INSOCG) - A committee formed under a 1990 interagency agreement to cooperate on the management and conservation of the northern spotted owl. It includes the U.S. Forest Service, U.S. Fish and Wildlife Service, Bureau of Land Management, National Park Service, and states of California, Oregon, and Washington.

Interagency Scientific Committee (ISC) - A committee of scientists that was established by the federal government agencies --Forest Service, Bureau of Land Management, Fish and Wildlife Service, and National Park Service to develop a conservation strategy for northern spotted owls.

Interagency Spotted Owl Subcommittee - A subcommittee of the Oregon-Washington Interagency Wildlife Committee that was formed to recommend guidelines to federal land management agencies for the protection of the northern spotted owl.

Interdisciplinary team - A group of individuals with varying areas of specialty assembled to solve a problem or perform a task. The team is assembled out of recognition that no one scientific discipline is sufficiently broad enough to adequately analyze the problem and propose action.

Interim (short-term) solution - Actions to be taken in a 2- to 4-year period.

Intermittent stream - Any nonpermanent flowing drainage feature having a definable channel and evidence of scour or deposition. This includes what are sometimes referred to as ephemeral streams if they meet these two criteria.

Interspecific - Occurring among members of different species.

Interspecific competition - The condition of rivalry that exists when a number of organisms of different species use common resources that are in short supply; or, if the resources are not in short supply, the condition that occurs when the organisms seeking that resource nevertheless harm one or another in the process. Competition usually is confined to closely related species that eat the same sort of food or live in the same sort of place. Competition typically results in ultimate elimination of the less effective organism from that ecological niche.

Intraspecific - Occurring among members of a single species.

Inventory river - A potential wild, scenic, or recreational river identified in the 1982 National Rivers Inventory (N7RI) published by the National Park Service.

ISC strategy - The set of management standards and guidelines, and associated monitoring and research studies, proposed by the Interagency Scientific Committee to address conservation of the northern spotted owl. This strategy ensures a high probability of long-term persistence of viable owl populations on federal lands in the Pacific Northwest.

ISODATA clustering - Iterative self-organizing data analysis technique, a statistical clustering technique that assigns spectral reflectance values to groups based on spectral distance between pairs of observations. This technique operates in an iterative fashion to optimize the statistical separation between groups.

Isolate - A population that is isolated.

Isolation - Absence of genetic crossing among populations because of distance or geographic barriers.

Issue - A matter of controversy or dispute over resource management activities that is well defined or topically discrete. Addressed in the design of planning alternatives.

Jamison strategy - A spotted owl conservation strategy adopted by the Bureau of Land Management that included some but not all of the major provisions of the Interagency Scientific Committee strategy.

Jeopardy - A finding made through consultation under the Endangered Species Act that the action of a federal agency is likely to jeopardize the continued existence of a threatened or endangered species.

Jolly seber models - A group of mathematical models designed to estimate survival rates of organisms that are marked and then recaptured or reobserved on subsequent occasions.

Juvenile - For spotted owls, a juvenile is normally considered to be any bird that is

less than 1 year old.

Irreversible or irretrievable commitment of resources - Effect of an action or inaction that cannot be reversed within a reasonable time.

Key watershed - As defined by National Forest and Bureau of Land Management District fish biologists, a watershed containing (1) habitat for potentially threatened species or stocks of anadromous salmonids or other potentially threatened fish, or (2) greater than 6 square miles with high-quality water and fish habitat.

Kuchler vegetative types - Potential natural vegetation of the coterminous United States, classified by Kuchler.

Lambda - The finite rate of population change (population size in year 2 divided by the population size in year 1).

Land allocation - The specification in forest plans of where activities, including timber harvest, can occur on a National Forest or Bureau of Land Management District.

Landing - Any place on or adjacent to the logging site where logs are assembled for further transport.

Landsat - A satellite that provides imagery used in remote sensing of forests. Analysis of this imagery produces maps of vegetation condition.

Landsat Multispectral Scanner (Landsat MSS) - A satellite-borne sensor, first launched in 1972, capable of recording reflected energy from the surface of Earth in four wavelength "bands or divisions of the visible and infrared spectrum. The sensor records reflectance in the green, red, and near infrared portions of the spectrum as numeric "reflectance values for a 180 x 180 km scene that is useful for mapping natural resources.

Landsat Thematic Mapper - An improved version of the Landsat MSS satellite sensor capable of recording reflected and emitted energy from the surface of Earth in seven "bands or divisions of the visible and infrared spectrum. First launched in 1982, this sensor has improved spatial resolution and finer tuning of the spectral

wavelengths for specific application to forestry, geology, agriculture, and water resource studies.

Landscape - A heterogenous land area with interacting ecosystems that are repeated in similar form throughout.

Landscape diversity - The size, shape, and connectivity of different ecosystems across a large area.

Landscape features - The land and water form, vegetation, and structures that compose the characteristic landscape.

Large woody debris - Pieces of wood larger than 10 feet long and 6 inches in diameter, in a stream channel.

Large woody material - Logs on the forest floor in pieces at least 24 inches in diameter at the large end.

Late seral stage forest - Stage in forest development that includes mature and old-growth forest. (See Seral stages.)

Late-Successional Reserve - A forest in its mature and/or old-growth stages that has been reserved under each option in this report. (See Old-growth forest and Succession.)

Lava flow - A congealed stream of lava.

Leasable minerals - Minerals that may be leased to private interests by the federal government. Includes oil, gas, geothermal resources, and coal.

Leave strips - Generally narrow bands of forest trees that are left along streams and rivers to buffer aquatic habitats from upslope forest management activities.

Litter layer - The loose, relatively undecomposed organic debris on the surface of the forest floor made up typically of leaves, bark, small branches, and other fallen material.

Locatable minerals - Minerals subject to exploration, development, and disposal by staking mining claims as authorized by the Mining Law of 1872 (as amended). This includes valuable deposits of gold, silver, and other uncommon minerals not subject to lease or sale.

Log decomposition class - Any of five stages of deterioration of logs in the forest. Stages range from essentially sound (class 1) to almost total decomposition (class 5).

Long-term - Here, 50 to 100 years and sometimes beyond.

Long-term soil productivity - The ability of a soil to sustain a nondeclining yield of a timber crop in perpetuity and retain the potential for the targeted species to be grown at the same stocking level and growth rate after each rotation.

Long-term sustained yield (LTSY) - Estimated timber harvest that can be maintained indefinitely, once all stands have been converted to a managed state under a specific management intensity.

LS/OG forest (or stands) - Late-successional and/or old growth. Forests or stands consisting of trees and structural attributes and supporting biological communities and processes associated with old-growth and/or mature forests.

Lumber and wood products, except furniture - An industrial classification that includes logging contractors engaged in cutting timber and pulpwood: merchant sawmills, lath mills, shingle mills, planing mills, plywood mills, and veneer mills engaged in producing lumber and wood basic materials; and establishments engaged in manufacturing finished articles made entirely or mainly of wood or wood substitutes. Certain types of establishments producing wood products are classified elsewhere (e.g., furniture and office and store fixtures are in a different classification).

Major plant grouping - An aggregation of plant associations with similar management potential and with the same dominant late seral conifer species and the same major early seral species. Late seral rather than climax species are used because late seral species are usually present rather than climax communities and because most old-growth plant communities on Bureau of Land Management lands are made up of late seral species rather than climax species in the upper canopy.

Managed forest - Any forestland that is treated with silvicultural practices and/or harvested. Generally applied to land that is harvested on a scheduled basis and contributes to an allowable sale quantity.

Managed Late-Successional Areas - Selected harvest areas and managed pair areas.

Managed pair areas - In some portions of the northern spotted owl's range it is necessary to provide additional protection in the matrix for pairs of owls and territorial singles. This consists of delineating a core habitat area, plus additional acreage of suitable habitat around the core. The acreage to be delineated around the core varies throughout the range, based on data for pairs in that area. The suitable acreage must be delineated in an area equal to the mean home range for that physiographic province. Appropriate silvicultural treatment is encouraged in suitable and unsuitable habitat in the acreage around the core.

Management activity - An activity undertaken for the purpose of harvesting, traversing, transporting, protecting, changing, replenishing, or otherwise using resources.

Management framework plan (MFP) - A land use plan that established coordinated land use allocations for all resource and support activities for a specific land area within a Bureau of Land Management District. It established objectives and constraints for each resource and support activity and provided data for consideration in program planning. This process has been replaced by the resource management planning process.

Management intensity (MI) - An expression of a potential type of management for a group resource unit in TRIM-PLUS, expressed as a yield table.

Management prescription - The management practices and intensity selected and scheduled for application on a specific area to attain multiple-use and other goals and objectives.

Marbled murrelet - A small robin-sized seabird (*Brachyramphus marmoratus*) that nests in old-growth forests within 50 miles of marine environments. Proposed for listing as a threatened species by the U.S. Fish and Wildlife Service.

Marbled murrelet habitat - Primarily late-successional/old-growth forest with trees that are large enough and old enough to develop broad crowns and large limbs, which provide substrates for nests. Also includes some younger stands in which tree limbs are deformed by dwarfmistletoe, creating broad platforms.

Marbled murrelet zone I - A 10 to 40 mile-wide zone adjacent to marine areas in which the majority of marbled murrelet detections and nests are located.

Marbled murrelet zone 2 - An inland zone that abuts marbled murrelet zone 1. Numbers of murrelet detections in zone 2 indicate that it is used by only a small fraction of the breeding population.

Marginal spotted owl habitat - Vegetative communities, usually forest stands, that may provide for spotted owl life needs at least intermittently. Other times, depending on other environmental factors, the life needs of spotted owls would not be met. A landscape with a predominance of marginal habitat would not be thought to sustain a viable population of spotted owls.

Mass movement - The downslope movement of earth caused by gravity. Includes but is not limited to landslides, rock falls, debris avalanches, and creep. It does not, however, include surface erosion by running water. It may be caused by natural erosional processes, or by natural disturbances (e.g., earthquakes or fire events) or human disturbances (e.g., mining or road construction).

Mature seral stage - See Seral stages.

Matrix - Federal lands outside of reserves, withdrawn areas, and Managed Late-Successional areas.

Mature stand - A mappable stand of trees for which the annual net rate of growth has peaked. Stands are generally greater than 80-100 years old and less than 180-200 years old. Stand age, diameter of dominant trees, and stand structure at maturity vary by forest cover types and local site conditions. Mature stands generally contain trees with a smaller

Mature stand (continued) - average diameter, less age class variation, and less

structural complexity than old-growth stands of the same forest type. Mature stages of some forest types. are suitable habitat for spotted owls. However, mature forests are not always spotted owl habitat, and spotted owl habitat is not always mature forest.

Maximum likelihood classification - A statistical classification technique that assigns reflectance values to groups based on the probability that an observation belongs to a particular class.

Merchantable trees, stands, timber - Trees or stands that people will buy for the wood they contain.

Mesic - Pertaining to or adapted to an area that has a balanced supply of water; neither wet nor dry.

Meta-analysis - A method or analysis that simultaneously examines multiple sets of data from different subsets of a population to determine if there are any general trends in the population.

Meta-population - A population comprising local populations that are linked by migrants, allowing for recolonization of unoccupied habitat patches after local extinction events.

Microenvironment - The sum total of all the external conditions that may influence organisms and that come to bear in a small or restricted area.

Microhabitats - A restricted set of distinctive environmental conditions that constitute a small habitat, such as the area under a log.

Mid seral stage - See Seral stages.

Mineral estate - The ownership of the minerals at or beneath the surface of the land.

Mineral potential classification system - Method for assessing the potential for the presence of a concentration of one or more energy and/or mineral resources.

Minimum harvest age - The lowest age of a forest stand to be scheduled for final harvest.

Minimum stocking - Reforestation level lower than target stocking. Does not achieve full site occupancy in young stands but is capable of achieving optimal final harvest yield and reduced commercial thinning yield.

Minimum streamflow - The quantity of water needed to maintain the existing and planned in-place uses of water in or along a stream channel or other water body and to maintain the natural character of the aquatic system and its dependent systems.

Minimum viable population - The low end of the viable population range.

Mining claims - Portions of public lands claimed for possession of locatable mineral deposits, by locating and recording under established rules and pursuant to the 1872 Mining Law.

Mitigating measures - Modifications of actions that (1) avoid impacts by not taking a certain action or parts of an action; (2) minimize impacts by limiting the degree or magnitude of the action and its implementation; (3) rectify impacts by repairing, rehabilitating, or restoring the affected environment; (4) reduce or eliminate impacts over time by preservation and maintenance operations during the life of the action; or (5) compensate for impacts by replacing or providing substitute resources or environments.

Mixed conifer - Here, this term refers to stands of trees, made up of pine, Douglas-fir, and true firs, that are generally found east of the Cascades.

Mixed-conifer forest - A forest community that is dominated by two or more coniferous species.

Mixed-evergreen forest - A forest community that is dominated by two or more species of broad-leaved hardwoods whose foliage persists for several years. Important western species include madrone, tanoak, chinquapin, canyon live oak, and California-laurel.

Model - An idealized representation of reality developed to describe, analyze, or

understand the behavior of some aspect of it; a mathematical representation of the relationships under study. The term model is applicable to a broad class of representations, ranging from a relatively simple qualitative description of a system or organization to a highly abstract set of mathematical equations.

Modified ISC strategy - In this report, an alternative based on the Interagency Scientific Committee's strategy for conserving the northern spotted owl but having smaller and fewer habitat conservation areas than the original strategy and not employing the 50-11-40 rule.

Monitoring - The process of collecting information to evaluate if objective and anticipated or assumed results of a management plan are being realized or if implementation is proceeding as planned.

Monitoring program - The administrative program used for monitoring.

Mortality salvage - The harvest of dead and dying timber.

Most significant LS/OG forests (LS/OGIs) - The largest, most strategically located blocks of existing LS/OG stands, often at lower elevations, that provide for spotted owls, marbled murrelets, other late-successional forest plant and animal species, sensitive fish species and stocks, and other important ecosystem processes and functions. (See Significant LS/OG forests.)

Movement - Shifts in locations of animals, which may be two-way such as seasonal movements, or one-way as in a shift to a new breeding territory.

Multiaged stand - A forest stand that has more than one distinct age class arising from specific disturbance and regeneration events at various times. These stands normally will have multilayered structure.

Multilayered canopy - Forest stands with two or more distinct tree layers in the canopy; also called multistoried stands.

Multiple use - Management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people. Making the most judicious use of the land for some

or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions. The use of some land for less than all of the resources. A combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific, and historic values. Harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment. This combination is not necessarily the one that will give the greatest dollar return or greatest unit output.

Multistoried - Forest stands that contain trees of various heights and diameter classes and therefore support foliage at various heights in the vertical profile of the stand.

Multivariate analysis - A field of statistics in which multiple variables are used to compare sample groups. Multivariate analysis contrasts with univariate analysis, in which single variables are used to compare sample groups.

Mycorrhizal fungi - Fungi with a symbiotic relationship with the roots of certain plants.

Natal area - The location where an animal was born.

National ambient air quality standards (NAAQS). Standards designed to protect public health and welfare, allowing an adequate margin of safety. For particulate matter less than 10 microns in size (PM₁₀), 50 micrograms per cubic meter annual average and 150 micrograms per cubic meter, 24- hour average, not to be exceeded more than once per year.

National Environmental Policy Act (NEPA) - An act passed in 1969 to declare a national policy that encourages productive and enjoyable harmony between humankind and the environment, promotes efforts that will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of humanity, enriches the understanding of the ecological systems and natural resources important to the nation, and establishes a Council on Environmental Quality (The Principal Laws Relating to Forest Service Activities, Agric. Handb. 453. USDA Forest Service, 359p.).

National Forest Management Act (NFMA) - A law passed in 1976 as an amendment to the Forest and Rangeland Renewable Resources Planning Act, requiring the preparation of forest plans and the preparation of regulations to guide that development.

National Marine Fisheries Service (NMFS) - A division within the U.S. Department of Commerce.

National Park Service (NPS) - A division within the U.S. Department of the Interior.

National Register of Historic Places - A formal list established by the National Historic Preservation Act of 1966 of cultural resources worthy of preservation. The Register is maintained by the National Park Service and lists archaeological, historic, and architectural properties.

Nesting, roosting, and foraging habitat - The forest vegetation with the age class, species of trees, structure, sufficient area, and adequate food source to meet some or all of the life needs of the northern spotted owl.

Nexus - A means of connection. Often used in a legal context to refer to the legal connection between one action and another.

Nocturnal - Referring to organisms that are active or functional at night.

Nominal resolution - The stated limit to the level of detail a given sensor can record. Usually this refers to spatial resolution or the smallest land area or object that can be discerned from satellite imagery.

Nonattainment - Failure of a geographic area to attain or maintain compliance with National Ambient Air Quality Standards (NAAQS) as defined by the Clean Air Act (1990 revision).

Nonattainment area - A geographic area that has failed to attain or maintain compliance with air quality standards. Nonattainment area boundaries are commonly the same as city, standard metropolitan statistical area, or county

boundaries.

Nonchargeable volume - Timber harvest not included in the allowable sale quantity calculations.

Noncommercial forest land - Land incapable of yielding at least 20 cubic feet of wood per acre per year of commercial species; or land that is capable of producing only noncommercial tree species.

Noncommercial tree species - Minor conifer and hardwood species whose yields are not reflected in the commercial conifer forest land allowable sale quantity. Some species may be managed and sold under a suitable woodland allowable sale quantity and, therefore, may be commercial as a woodland species.

Nonfederal cluster - A cluster of three or more spotted owl activity centers on nonfederal lands. An area that contains habitat capable of supporting three or more breeding pairs of spotted owls with overlapping or nearly overlapping home ranges.

Nonforest land - Land developed for nontimber uses or land incapable of being 10 percent stocked with forest trees.

Nongame wildlife - All wild vertebrate and invertebrate animals not subject to sport hunting.

Nonmarket - Products derived from resources that do not have a well-established market value; for example, recreation, wilderness, wildlife.

Nonpoint source pollution - Water pollution that does not result from a discharge at a specific, single location (such as a single pipe) but generally results from land runoff, precipitation, atmospheric deposition, or percolation, and normally is associated with agricultural, silvicultural, and urban runoff, runoff from construction activities, etc. Such pollution results in the human-made or human-induced alteration of the chemical, physical, biological, radiological integrity of water.

Nonsuitable commercial forest land - Sites that would take longer than 15 years to meet or exceed minimum stocking levels of commercial species. Further

classified as suitable woodland.

Nonsuitable woodland - All fragile nonsuitable forest land.

Northern spotted owl - One (*Strix occidentalis canrinalis*) of three subspecies of the spotted owl that ranges from southern British Columbia, Canada, through western Washington and Oregon, and into northwestern California. Listed as a threatened species by the U.S. Fish and Wildlife Service.

Noxious plant - A plant specified by law as being especially undesirable, troublesome, and difficult to control.

Noxious weed - See Noxious plant.

Nutrient cycling - Circulation or exchange of elements such as nitrogen and carbon between nonliving and living portions of the environment. Includes all mineral and nutrient cycles involving mammals and vegetation.

Nutrient depletion - Detrimental changes on a site in the total amount of nutrients and/or their rates of input, uptake, release, movement, transformation, or export.

O&C Lands - Public lands granted to the Oregon and California Railroad Co. and subsequently revested to the United States.

Obligate species - A plant or animal that occurs only in a narrowly defined habitat such as tree cavity, rock cave, or wet meadow.

Occupancy rate - In reference to spotted owls, the percentage of inventoried spotted owl habitat that is estimated to be occupied by breeding pairs of spotted owls.

Off-road vehicle (ORV) - Any motorized track or wheeled vehicle designed for cross-country travel over natural terrain (e.g., motorcycles, all-terrain vehicles, four-wheeled drive vehicles, and snowmobiles).

Off-road vehicle designation -

Open: Designated areas and trails where off-road vehicles may be operated subject to operating regulations and vehicle standards set forth in manuals.

Limited: Designated areas and trails where off- road vehicles are subject to restrictions limiting the number or types of vehicles, date, and time of use; limited to existing or designated roads and trails.

Closed: Areas and trails where the use of off- road vehicles is permanently or temporarily prohibited. Emergency use is allowed.

Old-growth associated species - Plant and animal species that exhibit a strong association with old- growth forests.

Old-growth conifer stand - Older forests occurring on western hemlock, mixed conifer, or mixed evergreen sites that differ significantly from younger forests in structure, ecological function, and species composition. Old growth characteristics begin to appear in unmanaged forests at 175-250 years of age. These characteristics include (1) a patchy multilayered canopy with trees of several age classes, (2) the presence of large living trees, (3) the presence of larger standing dead trees (snags) and down woody debris, and (4) the presence of species and functional processes that are representative of the potential natural community. Definitions are from the Forest Service's Pacific Northwest Experiment Station Research Note 447 and General Technical Report 285, and the 1986 interim definitions of the Old-Growth Definitions Task Group.

Old-growth dependent species - An animal species so adapted that it can exist only in old growth forests.

Old-growth emphasis areas (OGEA) - In Bureau of Land Management draft planning documents of 1992, areas where management emphasis will be given to providing for old-growth associated species and biological diversity. Management would provide for timber production when consistent with local and landscape level diversity.

Old-growth forest - A forest stand usually at least 180-220 years old with moderate to high canopy closure; a multilayered, multispecies canopy dominated by large overstory trees; high incidence of large trees, some with broken tops and other

indications of old and decaying wood (decadence); numerous large snags; and heavy accumulations of wood, including large logs on the ground.

Old-growth stand - A mappable area of old-growth forest.

Old-growth seral stage - See Seral stages.

100-year floodplain - The area adjacent to a stream that is on average inundated once a century.

Open additional restrictions - Areas open to mineral exploration and development subject to additional restrictions that can be legally required by Bureau of Land Management pursuant to law, regulation, or other legal authority such as off-road vehicle or other closure order or community pit designation.

Open standard requirements - Areas open to mineral exploration and development subject only to requirements over which the Bureau of Land Management has no discretionary control such as the Clean Air/Clean Water Acts, National Environmental Policy Act, Resource Conservation and Recovery Act, Coastal Zone Management Act, Endangered Species Act, or National Historic Preservation Act.

Operations inventory (OI) - An intensive, sitespecific forest inventory of forest stand location, size, silviculture needs, and recommended treatment based on individual stand conditions and productivity.

Operations inventory unit - An aggregation of trees occupying an area that is sufficiently uniform in composition, age, arrangement, and condition to be distinguishable from vegetation on adjoining areas.

Optimal cover - For elk, cover used to hide from predators and avoid disturbances, including humans. It consists of a forest stand with four layers and an overstory canopy that can intercept and hold a substantial amount of snow, yet has dispersed, small openings. It is generally achieved when the dominant trees average 21 inches diameter at breast height or greater and have 70 percent or greater crown closure.

Opportunity cost - Benefit that could result from a course of action but that is

foregone when that course of action is not pursued.

Oregon-Washington Interagency Wildlife Committee - A committee composed of administrators from federal and state agencies including the U.S. Forest Service, U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, Oregon Department of Fish and Wildlife, and Washington Department of Game.

Outstanding natural area (ONA) - An area that contains unusual natural characteristics and is managed primarily for educational and recreational purposes.

Outstandingly remarkable values (ORV) - Values among those listed in Section 1 (b) of the Wild and Scenic Rivers Act: scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar values Other similar values that may be considered include ecological, biological or botanical, paleontological, hydrological, scientific, or research.

Overstory - Trees that provide the uppermost layer of foliage in a forest with more than one roughly horizontal layer of foliage.

Owl additions - See Spotted owl additions.

Owl forests - In this report, the National Forests and Bureau of Land Management Districts supporting populations of northern spotted owls.

Owl region - The geographic area within the range of the northern spotted owl.

Owl site - Any site where there has been a recent or historic observation of a single spotted owl or a pair of owls.

Overmature stands - Trees of an age at which they decline in vigor and soundness.

Overstory removal - The final stage of cutting where the remaining overstory trees are removed to allow the understory to grow. Overstory removal is generally accomplished 3 to 5 years after reforestation and when adequate stocking has been achieved.

Packing - A temporary influx of organisms of various sex and age classes into

remaining suitable habitat as previously available habitat is changed to unsuitable conditions.

Pair site - An amount of habitat that is considered capable of supporting one pair of spotted owls.

Paper and allied products - An industrial classification that includes establishments primarily engaged in the manufacture of pulps from wood and other cellulose fibers, and from rags; the manufacture of paper and paperboard into converted products, such as paper coated off the paper machine, paper bags, paper boxes, and envelopes.

Partial cutting - Removal of selected trees from a forest stand.

Partial log suspension - During yarding operations, suspension of one end of the log above the ground.

Particulates - Finely divided solid or liquid (other than water) particles in the air.

Patch - A small (20-60 acre) part of the forest. This term is often used to indicate a type of clearcutting (patch cuts) associated with the "staggered setting approach to distributing harvest units across landscape.

Peak flow - The highest amount of stream or river flow occurring in a year or from a single storm event.

Perennial stream - A stream that typically has running water on a year-round basis.

Personal income - The income received by all individuals in the economy from all sources. Made up of wages and salaries, proprietors income, rental income, dividends, personal interest income, and the difference between transfer payments (payouts) and personal contributions for social insurance.

Phenology - The annual recurrence of plant and animal phenomena that is influenced by seasonal and other environmental changes (e.g., flowering of plants, ripening of fruit).

Phi - The annual probability of survival of adult females.

Physiographic province - A geographic area having a similar set of biophysical characteristics and processes due to effects of climate and geology which result in patterns of soils and broad-scale plant communities. Habitat patterns, wildlife distributions, and historical land use patterns may differ significantly from those of adjacent provinces.

Pixel - Abbreviated form of "Picture Element, or the smallest division of a picture or image, usually used in relation to satellite imagery.

Plan amendment - A change in the terms, conditions, or decisions of a resource management plan.

Plan maintenance - Any documented minor change that interprets, clarifies, or refines a decision within a resource management plan but does not change the scope or conditions of that decision.

Planning area - All of the lands within a federal agency's management boundary addressed in land management plans.

Plan revision - A new resource management plan prepared by following all steps required by the regulations for preparing an original resource management plan.

Plant association - A plant community type based on land management potential, successional patterns, and species composition.

Plant community - An association of plants of various species found growing together in different areas with similar site characteristics.

Plantation maintenance - Actions in an unestablished forest stand to promote the survival of desired crop trees.

Plantation release - All activities associated with promoting the dominance and/or growth of desired tree species within an established forest stand.

Plateau - A table-land of flat-topped region of considerable extent and elevation.

Platform nest - A relatively flat nest constructed on a supporting structure such as a broad branch.

Pool/riffle ratio - The ratio of surface area or length of pools to the surface area or length of riffles in a given stream reach; frequently expressed as the relative percentage of each category. Used to describe fish habitat rearing quality.

Population - A collection of individual organisms of the same species that potentially interbreed and share a common gene pool. Population density refers to the number of individuals of a species per unit area, population persistence to the capacity of the population to maintain sufficient density to persist, well distributed, over time. (See Viable population.)

Population density - Number of individuals of a species per unit area.

Population dynamics - The aggregate of changes that occur during the life of a population. Included are all phases of recruitment and growth, senility, mortality, seasonal fluctuation in biomass, and persistence of each year class and its relative dominance, and the effects that any or all of these factors exert on the population.

Population viability - Probability that a population will persist for a specified period across its range despite normal fluctuations in population and environmental conditions.

Population viability model - A model that predicts the future state of an animal population based on its birth and death rates, habitat conditions, and other environmental factors.

Population viability models - A mathematical abstraction of a system that is designed to predict the likelihood of persistence of a population under different conditions.

Potential ACEC - An area of Bureau of Land Management land that meets the relevance and importance criteria for designation as an area of critical environmental concern (ACEC), as follows:

Relevance - There shall be present a significant historic, cultural, or scenic value; a fish or wildlife resource or other natural system or process; or natural hazard.

Importance - The above described value, resource, system, process, or hazard shall have substantial significance and values. This generally requires qualities of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern. A natural hazard can be important if it is a significant threat to human life or property.

Potential habitat - A stand of trees of a vegetation type used by spotted owls that is not currently suitable but is capable of growing or developing into suitable habitat in the future. In general, potential habitats are stands in the earlier successional stages of forest types used by spotted owls.

Potential natural community - The community of plants and wild animals that would become established if all successional sequences were completed without interference by people under present environmental conditions. For forest communities, the potential natural community is an old-growth conifer stand.

Precommercial thinning - The practice of removing some of the trees less than merchantable size from a stand so that remaining trees will grow faster.

Predator - Any animal that preys externally on others by hunting, killing, and generally feeding on a succession of hosts, i.e., the prey.

Prescribed burning - Controlled fire deliberately set to meet various resource objectives.

Prescribed fire - A fire burning under specified conditions that will accomplish certain planned objectives. The fire may result from planned or unplanned ignitions.

Presuppression - Activities organized in advance of fire occurrence to ensure effective suppression action and/or to minimize risk to humans and resource damage.

Protective management - Measures taken by nonfederal entities to conserve spotted owls and their habitat. Measures may include participation in conservation

planning (as defined in Endangered Species Act, Section 10) or other actions that benefit owls. Entities may be states, private landowners, Indian tribes, or others.

Preventive strategy(ies) - The amelioration of conditions that cause or favor the presence of competing or unwanted vegetation.

Priority animal taxa - Species or subspecies having special significance for management. They include endangered, threatened, and special status species

Priority habitats - Aquatic, wetland, and riparian habitats, and habitats of priority animal taxa.

Probable sale level - The annual amount of sawtimber likely to be sold outside of Reserves on a sustainable basis under an option.

Progeny test site - A test area for evaluating parent seed trees by comparing the growth of their offspring seedlings.

Proposed threatened or endangered species - Plant or animal species proposed by the U.S. Fish and Wildlife Service to be biologically appropriate for listing as threatened or endangered, and published in the Federal Register. It is not a final designation.

Province - See Physiographic province.

Public domain lands - Original holdings of the United States never granted or conveyed to other jurisdictions, or reacquired by exchange for other public domain lands.

Public water system - A system providing piped water for public consumption. Such a system has at least 15 service connections or regularly serves at least 25 individuals.

Quarter-township - An area approximately 3 miles square containing nine sections of land.

Radio-telemetry - Automatic measurement and transmission of data from remote

sources via radio to a receiving station for recording and analysis. In this report, it refers to the tracking of spotted owls by means of small radio transmitters attached to them.

Random - Being or relating to a set or to an element of a set each of whose elements has equal probability of occurrence; also characterized by procedures to obtain such sets or elements.

Range (of a species) - The area or region over which an organism occurs.

Rearing habitat - Areas in rivers or streams where juvenile salmon and trout find food and shelter to live and grow.

Reasonable and prudent measures - Actions the Fish and Wildlife Service or the National Marine Fisheries Service believe are necessary and appropriate to minimize the impacts (amount or extent) of incidental take. These are communicated to a federal agency in a biological opinion.

Record of decision - A document separate from but associated with an environmental impact statement that states the management decision, identifies all alternatives including both the environmentally preferable and preferred alternatives, states whether all practicable means to avoid environmental harm from the preferred alternative have been adopted, and if not, why not.

Recovery - Action that is necessary to reduce or resolve the threats that caused a species to be listed as threatened or endangered.

Recreational river - See Wild and Scenic River System.

Recruitment - The addition to a population from all causes (i.e., reproduction, immigration, and stocking). Recruitment may refer literally to numbers born or hatched or to numbers at a specified stage of life such as breeding age or weaning age.

Recruitment habitat - In this report pertaining to marbled murrelet mitigation younger forest stands that presently do not have the attributes, (large old- growth trees) of suitable marbled murrelet habitat but are expected to gain them through

time. Protection of these stands will preserve the option to include them in a conservation strategy or Final Draft Recovery Plan for the Northern Spotted Owl for marbled murrelets.

Rectification - The process of making imagery conform to a map projection system, usually to assign real world coordinates to image data.

Reforestation - The natural or artificial restocking of an area with forest trees; most commonly used in reference to artificial stocking.

Refugia - Locations and habitats that support populations of organisms that are limited to small fragments of their previous geographic range (i.e., endemic populations).

Regeneration - The actual seedlings and saplings existing in a stand; or the act of establishing young trees naturally or artificially.

Regeneration cut or harvest - Timber harvest conducted with the partial objective of opening a forest stand to the point where favored tree species will be reestablished.

Regeneration period - The time it takes to reforest an area to adequate stocking following a timber sale.

Region - A Forest Service administrative unit. The two regions affected by this proposed action are the Pacific Northwest (Region 6), which includes National Forests in Oregon and Washington, and the Pacific Southwest Region (Region 5), which includes National Forests in California.

Region 5 - The National Forests of California; the Forest Service's Pacific Southwest Region.

Region 6 - The National Forests of Washington and Oregon; the Forest Service's Pacific Northwest Region.

Regional guide - The guide developed to meet the requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended (National

Forest Management Act). Regional guides provide standards and guidelines for addressing major issues and management concerns that need to be considered at the regional level to facilitate National Forest planning.

Regulated forest - A forest that comprises an even distribution of age classes or tree sizes, when the growth equals the cut (at the highest level sustainable) and when the level of growing stock remains relatively constant.

Regulations - Generally refers to the Code of Federal Regulations.

Representative timber management scenario - A set of assumed timber harvest units, road locations, average annual levels of associated practices, and intensive management practices for the decade of the expected life of the plan.

Rescue effect - Immigration of new individuals sufficient to maintain a population that might otherwise decline toward extinction.

Research natural area (RNA) - An area set aside by a public or private agency specifically to preserve a representative sample of an ecological community, primarily for scientific and educational purposes. In Forest Service usage, research natural areas are areas designated to ensure representative samples of as many of the major naturally occurring plant communities as possible.

Reserved federal mineral estate - Land on which the federal government has ownership of minerals but the surface estate is private or other nonfederal ownership.

Reserved land - Federal lands that have been withdrawn from acreage used for timber yields. These lands often have a preservation or protection status. Wildernesses, Research Natural Areas, and National Recreation Areas are examples of reserved lands.

Reserved pair areas - In those portions of the species' range where habitat and owl populations were inadequate to apply the criteria creating designated conservation areas, then individual pair areas were also reserved. These are areas of suitable habitat identified for pairs and territorial single owls. The acreage of these areas varies throughout the range, based on data for pairs in each physiographic province. All suitable habitat is reserved in an area equal to the mean home range for that

province.

Residual habitat area - A 100-acre of nesting, roosting, and foraging habitat encompassing the activity center for a pair of owls or a territorial single owl in the matrix.

Residual stand - The trees that remain standing after some event such as selection cutting.

Resource management plan (RMP) - A land use plan prepared by an agency under current regulations in accordance with the Federal Land Policy and Management Act.

Responding effects - The jobs and income generated by the purchase of goods and services by businesses or employees in the sector being examined. Example: Purchases of legal services by wood products companies and their employees is a responding effect that creates jobs and income for lawyers.

Restoration and retention blocks - Ecological reserves managed to restore or retain old-growth communities and respective plant communities.

Right-of-way - A permit or an easement that authorizes the use of public lands for specified purposes, such as pipelines, road, telephones lines, electric lines, reservoirs, and the lands covered by such an easement or permit.

Riparian area - A geographic area containing an aquatic ecosystem and adjacent upland areas that directly affect it. This includes floodplain, woodlands, and all areas within a horizontal distance of approximately 100 feet from the normal line of high water of a stream channel or from the shoreline of a standing body of water.

Riparian habitat conservation area - Portions of a watershed that contribute to the creation and maintenance of fish habitat.

Riparian management area - An area allocated in a plan primarily to protect the riparian and/or streamside zone.

Riparian Reserves - Designated riparian areas found outside the Late-Successional

Reserves.

Riparian zone - Those terrestrial areas where the vegetation complex and microclimate conditions are products of the combined presence and influence of perennial and/or intermittent water, associated high water tables, and soils that exhibit some wetness characteristics. Normally used to refer to the zone within which plants grow rooted in the water table of these streams, lakes, ponds, reservoirs, rivers, springs, marshes, seeps, bogs, and wet meadows.

Ripping - The process of breaking up or loosening compacted soil (e.g., skid trails or spur roads) to better assure penetration of roots of young tree seedlings.

Risk analysis - A qualitative assessment of the probability of persistence of wildlife species and ecological systems under various alternatives and management options; generally also accounts for scientific uncertainties.

Risk-analysis scale - A continuum of values (from very low through very high) describing the likelihood that habitat for associated wildlife species and fish will persist.

Roost - The resting behavior of an animal.

Roost sites - Sites where an animal roosts. Can refer to daytime and nighttime roosting. Sites often provide protection from environmental conditions and from predators.

Rotation - The planned number of years between regeneration of a forest stand and its final harvest (regeneration cut or harvest). A forest's age at final harvest is referred to as rotation age. In this report, an extended rotation is 120-180 years, a long rotation 180 years.

Rotation age - The age of a stand when harvested at the end of a rotation.

Rural interface areas - Areas where Bureau of Land Management lands are adjacent to or intermingled with privately owned lands zoned for lots of 1-20 acres or that already have residential development.

Salable minerals - High volume, low value mineral resources including common varieties of rock, clay, decorative stone, sand, and gravel.

Sanitation - The removal of dead or damaged trees, or trees susceptible to insect and disease attack such as intermediate and suppressed trees, essentially to prevent the spread of pest or pathogens and to promote forest health.

Sapling - A loose term for a young tree no longer a seedling but not yet a pole. It is generally a few feet high and 2-4 inches diameter at breast height, typically growing vigorously and without dead bark or more than an occasional dead branch.

Scarification - Mechanical removal of competing vegetation or interfering debris prior to planting.

Scenic quality - The relative worth of a landscape from a visual perception.

Scenic river - See Wild and Scenic River System.

Scribner short-log - A log measurement rule constructed from diagrams that show the number of 1-inch boards that can be drawn in a circle representing the small end of a 10-foot-long log. This assumes a 0.25-inch saw kerf groove, makes a liberal allowance for slabs, and disregards log taper.

Second-growth - Relatively young forests that have developed following a disturbance (e.g., wholesale cutting, serious fire, or insect attack) of the previous old-growth forest.

Section 7 - The section of the Endangered Species Act that specifies the roles of interagency coordination in accomplishing the objective of species recovery.

Section 9 - See Take.

Sediment yield - The quantity of soil, rock particles, organic matter, or other dissolved or suspended debris is transported through a cross-section of stream in a given period. Measured in dry weight or by volume. Consists of dissolved load, suspended load, and bed load.

Seed tree cutting method - An even-aged reproductive cutting method in which all mature timber from an area is harvested in one entry except for a small number of trees left as a seed source for the harvested area.

Seed orchard - A plantation of clones or seedlings from selected trees; isolated to reduce pollination from outside sources, weeded of undesirables, and cultured for early and abundant production of seed.

Selection cutting - A method of uneven-aged management involving the harvesting of single trees from stands (single-tree selection) or in groups (group selection) without harvesting the entire stand at any one time.

Senescence - The process of aging. In demographic studies the usual concern is whether demographic rates change as organisms grow older.

Sensitive fish species and stocks - Fish species and stocks (genetically distinct populations) of anadromous salmonids identified by the America Fisheries Society's Endangered Species Committee as needing special management considerations to avoid extinction.

Sensitive species - Those species that (1) have appeared in the Federal Register as proposed for classification and are under consideration for official listing as endangered or threatened species or (2) are on an official state list or (3) are recognized by the U.S. Forest Service or other management agency as needing special management to prevent their being placed on federal or state lists.

Sensitivity analysis - A process of examining specific tradeoffs that would result from making changes in single elements of a plan alternative.

Sensitivity levels - Measures (e.g., high, medium, and low) of public concern for the maintenance of scenic quality.

Seral stages - The series of relatively transitory planned communities that develop during ecological succession from bare ground to the climax stage. There are five stages:

Early seral stage - The period from disturbance to crown closure of conifer stands

managed under the current forest management regime. Grass, herbs, or brush are plentiful.

Mid-Seral stage - The period in the life of a forest stand from crown closure to first merchantability, usually ages 15-40. Due to stand density, brush, grass, or herbs rapidly decrease in the stand. Hiding cover may be present.

Late-Seral stage - The period in the life of a forest stand from first merchantability to culmination of mean annual increment. This is under a regime including commercial thinning, or to 100 years of age, depending on wildlife habitat needs. During this period, stand diversity is minimal, except that conifer mortality rates will be fairly rapid. Hiding and thermal cover may be present. Forage is minimal.

Mature seral stage - The period in the life of a forest stand from culmination of mean annual increment to an old-growth stage or to 200 years. This is a time of gradually increasing stand diversity. Hiding cover, thermal cover, and some forage may be present.

Serpentine soils - Soils developed on altered ultramafic rocks.

Serpentinite/peridotite - The association of darkcolored, coarse-grained, iron and magnesium-rich igneous rock (peridotite) with the products of hydrothermal alteration and faulting of these rocks (serpeninite).

Old-growth - This stage constitutes the potential plant community capable of existing on a site given the frequency of natural disturbance events. For forest communities, this stage exists from approximately age 200 until when stand replacement occurs and secondary succession begins again. Depending on fire frequency and intensity, old- growth forests may have different structures, species composition, and age distributions. In forests with longer periods between natural disturbance, the forest structure will be more even-aged at late mature or early old-growth stages.

Sexual dimorphism - The differences in size, weight, color, or other morphological characteristics that are related to the sex of the animal.

Shade-tolerant species - Plant species that have evolved to grow well in shade

Shelterwood - A regeneration method under an even-aged silvicultural system. A portion of the mature stand is retained as a source of seed and/or protection during the period of regeneration. The mature stand is removed in two or more cuttings.

Short-term - For this report, usually 10 years.

Significant LS/OG forests (LS/OG2) - Blocks of existing mature and old-growth forest stands, sometimes fragmented or small in size, that help connect most significant LS/OG forests and that contribute to the viability of LS/OG-associated plant and animal species and other important ecosystem processes and function (See Most significant LS/OG forests.)

Silvicultural practices (or treatments or system) - The set of field techniques and general methods used to modify and manage a forest stand over time to meet desired conditions and objectives.

Silvicultural prescription - A professional plan for controlling the establishment, composition, constitution, and growth of forests.

Silviculture - The science and practice of controlling the establishment, composition, and growth of the vegetation of forest stands. It includes the control or production of stand structures such as snags and down logs, in addition to live vegetation.

Simulation - The use of a computer or mathematical model to predict effects from a management option given different sets of assumptions about population vital rates.

Sink - Population whose average reproductive rate is less than its average rate of mortality. Such a population attracts immigrants that are not expected to contribute significantly to future populations. (See Source.)

Site class - A measure of an area's relative capacity for producing timber or other vegetation.

Site index - A measure of forest productivity expressed as the height of the tallest

trees in a stand at an index age.

Site-potential tree - A tree that has attained the average maximum height possible given site conditions where it occurs.

Site preparation - Any action taken in conjunction with a reforestation effort (natural or artificial) to create an environment favorable for survival of suitable trees during the first growing season. This environment can be created by altering ground cover, soil or microstate conditions, using biological, mechanical, or manual clearing, prescribed burns, herbicides, or a combination of methods.

Site productivity - The ability of a geographic area to produce biomass, as determined by conditions (e.g., soil type and depth, rainfall, temperature) in that area.

Skid trail - A path created by dragging logs to a landing (gathering point).

Skid yarding - A cable yarding system using one of the cables to support a carriage from which logs are suspended and then pulled to a landing.

Slope failure - See Mass movement.

Slope stability - The resistance of a natural or artificial slope or other inclined surface to failure by landsliding (mass movement).

Smoke management - Conducting a prescribed fire under suitable fuel moisture and meteorological conditions with firing techniques that keep smoke impact on the environment within designated limits.

Smoke management program - A program designed to ensure that smoke impacts on air quality from agricultural or forestry burning operations are minimized; that impacts do not exceed, or significantly contribute to, violations of air quality standards or visibility protection guidelines; and that necessary open burning can be accomplished to achieve land management goals.

Smoke sensitive area - An area identified by the Oregon Smoke Management Plan that may be negatively affected by smoke but is not classified as a designated area.

Snag - Any standing dead, partially dead, or defective (cull) tree at least 10 inches in diameter at breast height and at least 6 feet tall. A hard snag is composed primarily of sound wood, generally merchantable. A soft snag is composed primarily of wood in advanced stages of decay and deterioration, generally not merchantable.

Snag dependent species - Birds and animals dependent on snags for nesting, roosting, or foraging habitat.

Socioeconomic - Pertaining to, or signifying the combination or interaction of, social and economic factors.

Soil compaction - An increase in bulk density (weight per unit volume) and a decrease in soil porosity resulting from applied loads, vibration, or

Soil displacement - The removal and horizontal movement of soil from one place to another by mechanical forces such as a blade.

Soil productivity - Capacity or suitability of a soil, for establishment and growth of a specified crop or plant species, primarily through nutrient availability.

Soil series - A group of soils developed from a particular type of parent material having naturally developed horizons that, except for texture of the surface layer, are similar in differentiating characteristics and in arrangement of the profile.

Source - An actively breeding population that has an average birth rate that exceeds its average death rate; produces an excess number of juveniles that may disperse to other areas.

Spatially explicit model - A model that predicts the future state of an animal population based on mapped locations of organisms and their habitat.

Special areas - Areas that may need special management, which may include management as an area of critical environmental concern, research natural area, environmental education area, or other special category

Special habitat features - Habitats of special importance due to their uniqueness or

high value.

Special recreation management area (SRMA) - An area where a commitment has been to provide specific recreation activity and experience opportunities. These areas usually require a high level of recreation sites but recreation sites alone do not constitute SRMA's.

Special status species - Plant or animal species falling in any of the following categories (see separate glossary definitions for each):

- Threatened or endangered species
- Proposed threatened or endangered species
- Candidate species
- State listed species
- Bureau sensitive species
- Bureau assessment species pressure.

Species - (1) A group of individuals that have their major characteristics in common and are potentially interfertile. (2) The Endangered Species Act defines species as including any species or subspecies of plant or animal. Distinct populations of vertebrates also are considered to be species under the act.

Species diversity - The number, different kinds, and relative abundance of species.

Spectral class - A statistical grouping of similar spectral reflectance values from a satellite sensor that can be associated with a specific land cover class (i.e., forest, agriculture, water).

Spectral signature - Specific combinations of wavelengths of light energy reflected or radiated from a land surface, or, in forestry, a wavelength combination that more or less characterizes a specific forest condition or successional stage.

Split estate - An area of land where the surface is nonfederally owned and the subsurface mineral resources are federally owned, or vice versa.

Spotted owl additions - Areas of LS/OG or suitable spotted owl habitat or potential owl habitat added to most significant LS/OG forest (LS/OG1) to ensure

compliance with the Interagency Scientific Committee strategy.

Spotted owl habitat area (SOHA) - An area reserved from timber harvesting to provide forest habitat for one pair of northern spotted owls; the current spotted-owl management system described in forest plans for National Forest and Bureau of Land Management Districts.

Spotted owl habitat sites - Sites monitored by Bureau of Land Management for spotted owl occupancy during some or all of the years 1985 through 1988, in accordance with the Bureau's spotted owl monitoring guidelines. These sites are known to have been inhabited by spotted owls at some time since 1980, but not necessarily during the 1985-1988 period.

Spotted owl management area (SOMA) - An area designated to support three pairs of owls with home ranges separated by no more than 1.5 miles. Such areas have been prescribed in some plans for northern spotted owl conservation.

Stage classes - Any distinguishable phase of growth or development of an organism.

Staggered setting - An approach to timber harvesting in which harvest units, separated by uncut units of at least the same size, are scattered across the landscape.

Stand (tree stand) - An aggregation of trees occupying a specific area and sufficiently uniform in composition, age, arrangement, and condition so that it is distinguishable from the forest in adjoining areas.

Stand condition - A description of the physical properties of a stand such as crown closure or diameters.

Stand density - An expression of the number and size of trees on a forest site. May be expressed in terms of numbers of tree per acre, basal area, stand density index, or relative density index.

Stand-replacement wildfire - A wildfire that kills nearly 100 percent of the stand.

Stand-replacing event - A disturbance that is severe enough over a large enough

area (e.g., 10 acres) to virtually eliminate an existing stand of trees and initiate a new stand.

Standards and guidelines - The primary instructions for land manager. Standards address mandatory actions, while guidelines are recommended actions necessary to a land management decision.

State historic preservation offices (SHPO) - The state official authorized to act as a liaison to the Secretary of the Interior for purposes of implementing the National Historic Preservation Act of 1966.

State implementation plan (SIP) - A state document, required by the Clean Air Act. It describes a comprehensive plan of action for achieving specified air quality objectives and standards for a particular locality or region within a specified time, as enforced by the state, and approved by the Environmental Protection Agency.

State listed species - Plant or animal species listed by the state of Oregon as threatened or endangered pursuant to ORS 496.004, ORS 498.026, or ORS 564.040.

Statewide comprehensive outdoor recreation plan (SCORP) - A plan prepared by the state that describes and analyzes the organization and function of the outdoor recreation system of the state. The plan provides an analysis of the roles and responsibilities of major outdoor recreation suppliers; an analysis of major outdoor recreation suppliers; an analysis of demand, supply and needs; issue discussions; an action program to address the issues; and a project selection process.

Stochastic - Random, uncertain; involving a random variable.

Stochastic model - A model that includes representation of random events.

Stocked/stocking - The degree an area of land is occupied by trees as measured by basal area or number of trees.

Stream order - A hydrologic system of stream classification. Each small unbranched tributary is a first order stream. Two first order streams join to make a second order stream. A third order stream has only first and second order

tributaries, and so forth.

Stream reach - An individual first order stream or a segment of another stream that has beginning and ending points at a stream confluence. Reach end points are normally designated where a tributary confluence changes the channel character or order. Although reaches identified by the Bureau of Land Management are variable in length, they normally have a range of 0.5 to 1.5 miles in length unless channel character, confluence distribution, or management considerations require variance.

Structural discontinuity - A surface separating two unrelated groups of rocks, created by faulting.

Structural diversity - The diversity of forest structure, both vertical and horizontal, that provides for a variety of forest habitats for plants and animals. The variety results from layering or tiering of the canopy and the die-back, death, and ultimate decay of trees. In aquatic habitats, the presence of a variety of structural features such as logs and boulders that create a variety of habitat.

Structural retention - Harvest practices that leave physical elements (e.g., green trees, snags, down logs) of LS/OG forests on site after harvest.

Structure - The various horizontal and vertical physical elements of the forest.

Stumpage - The value of standing timber.

Subadult - A young spotted owl that has dispersed but not yet reached breeding age. Subadults are in their second, or in some cases, third year of life.

Subdrainage - A land area (basin) bounded by ridges or similar topographic features, encompassing only part of a watershed, and enclosing on the order of 5,000 acres; smaller than, and part of, a watershed. (See Drainage and Forest watershed.)

Subpopulation - A well-defined set of interacting individuals that compose a proportion of a larger, interbreeding population.

Subspecies - A population of a species occupying a particular geographic area, or

less commonly, a distinct habitat, capable of interbreeding with other populations of the same species.

Succession - A series of dynamic changes by which one group of organisms succeeds another through stages leading to potential natural community or climax. An example is the development of series of plant communities (called seral stages) following a major disturbance.

Successional stage - A stage or recognizable condition of a plant community that occurs during its development from bare ground to climax. For example, coniferous forests in the Blue Mountains progress through six recognized stages: grass-forb, shrub-seedling, pole-sapling, young, mature, old- growth. (See also Seral.)

Suitable commercial forest land - Commercial forest land capable of sustained long-term timber production.

Suitable habitat - In the Final Draft Recovery Plan for the Northern Spotted Owl, an area of forest vegetation with the age-class, species of trees, structure, sufficient area, and adequate food source to meet some or all of the life needs of the northern spotted owl. (See also Nesting, roosting, and foraging habitat.)

Suitable river - A river segment found, through administrative study by an appropriate agency, to meet the criteria for designation as a component of the National Wild and Scenic Rivers system, specified in Section 4(a) of the Wild and Scenic Rivers Act.

Suitable woodland - Forest land occupied by minor conifer and hardwood species not considered in the commercial forest land allowable sale quantity determination and referred to as noncommercial species. These species may be considered commercial for fuelwood, etc. under woodland management. Also included are low site and nonsuitable commercial forest land. These lands must be biologically and environmentally capable of supporting a sustained yield of forest products.

Superior habitat - In the Final Draft Recovery Plan for the Northern Spotted Owl, habitat selected in excess of availability by the majority of individual northern spotted owls.

Superspecies - Two closely related species that are believed to have diverged

relatively recently.

Supplemental pair areas - Habitat delineated and maintained on nonfederal lands to support spotted owl pairs or territorial singles. Habitat may be managed or reserved from timber harvest; size of the areas varies by province.

Suppression - The action of extinguishing or confining a fire.

Surface erosion - The detachment and transport of soil particles by wind, water, or gravity. Surface erosion can occur as the loss of soil in a uniform layer (sheet erosion), in many rills, or by dry ravel.

Surface erosion - A group of processes whereby soil materials are removed by running water, waves and currents, moving ice, or wind.

Suspended sediment - Sediment suspended in a fluid by the upward components of turbulent currents or by colloidal suspension.

Sustainable harvest - A harvest volume that can be maintained through time without decline.

Sustained yield - The yield that a forest can produce continuously at a given intensity of management.

Sustained yield unit (SYU) - An administrative division for which an allowable sale quantity is calculated.

Survival rate - The average proportion of individuals in a sample or a population that survive for a given period.

Survivorship - The proportion of newborn individuals that are alive at a given age.

Sustained yield or production - The amount of timber that a forest can produce continuously from a given intensity of management. This implies continuous production. A primary goal is to achieve a balance between incremental growth and cutting.

Take - Under the Endangered Species Act, take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect an animal, or to attempt to engage in any such conduct.

Taking - Under Endangered Species Act, Section 7, taking is an action that results in take.

Talus - A slope landform, typically covered by coarse rock debris forming a more or less continuous layer that may or may not be covered by duff and litter.

Target stocking - The desirable number of well- spaced trees per acre at age of first commercial thinning.

Taxon - A category in scientific classification system, such as class, family, or phylum.

Territorial single - An unpaired owl that is defending a territory.

Territory - The area that an animal defends, usually during breeding season, against intruders of its own species.

Texture (soil) - The relative proportion of sand, silt, and clay in a soil; grouped into standard classes and subclasses in the Soil Survey Manual of the U.S. Department of Agriculture.

Texture of an ecosystem - Relative surface smoothness of an ecosystem determined by remote sensing technology, or the distinctiveness of the transition between two distinct ecosystems.

Thermal cover - Cover used by animals to lessen the effects of weather. For elk, a stand of conifer trees that are 40 feet or more tall with an average crown closure of 70 percent or more. For deer, cover may include saplings, shrubs, or trees at least 5 feet tall with 75 percent crown closure.

Thermoregulation - The physiological and biological process whereby an animal regulates its body temperature.

Threatened species - Those plant or animal species likely to become endangered species throughout all or a significant portion of their range within the foreseeable future. A plant or animal identified and defined in accordance with the 1973 Endangered Species Act and published in the Federal Register.

Threshold phenomenon - Pattern or trend in population growth rate that exhibits relatively long periods of slow change followed by precipitous increase or response to an environmental gradient.

Timber classification - The following are definitions of timber classifications:

1. Nonforest - Land that has never supported forests, and land formerly forested where use for timber production is precluded by development or other uses.
2. Forest - Land at least 10 percent stocked (based on crown cover) by forest trees of any size, or formerly having had such tree cover and not currently developed for nonforest use.
3. Suitable - Commercial forestland identified as appropriate for timber production.
4. Unsuitable - Forestland withdrawn from timber utilization by statute or administrative regulation (e.g., wilderness), or locally identified as not appropriate for timber production.

Timber harvest schedule - The quantity of timber planned for sale and harvest, by time period, from the area of land administered by a federal agency. The first period, usually a decade, of the selected harvest schedule provides the allowable sale quantity.

Timber management plan - An activity plan that specifically addresses procedures related to the offering and sale of timber volume consistent with the approved allowable sale quantity.

Timber production - The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round

sections for industrial or consumer use other than for fuelwood.

Timber production capability classification (TPCC) - The process of partitioning forest land into major classes indicating relative suitability to produce timber on a sustained yield basis.

Timber stand - See Stand.

Timber stand improvement - Measures such as thinning, pruning, release cutting, prescribed fire, girdling, weeding, or poisoning of unwanted trees aimed at improving growing conditions for the remaining trees.

Total suspended particulates - All solid or semisolid material found in the atmosphere.

Transition period - A period of environmental change during which a population increases or decreases to a new stable equilibrium level.

Transportation system - Network of roads used to manage Bureau of Land Management lands. Includes Bureau-controlled roads and some privately controlled roads. Does not include Oregon Department of Transportation, county, and municipal roads.

Travel corridor - A route used by animals along a belt or band of suitable cover or habitat.

Trophic level - The level in the food chain at which an organism sustains itself.

T-test - A statistical test that compares the value of a test statistic, t-value, to the student's **t** distribution.

Underburning - Prescribed burning of the forest floor or understory for botanical or wildlife habitat objectives, hazard reduction, or silvicultural objectives.

Understocked - The condition when a plantation of trees fails to meet the minimum requirements for number of well spaced trees per acre.

Understory - The trees and other woody species growing under the canopies of larger adjacent trees and other woody growth.

Uneven-aged management - A combination of actions that simultaneously maintains continuous tall forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter or age classes. Cutting methods that develop and maintain uneven- aged stands are single-tree selection and group selection.

Unique ecosystems - Ecosystems embracing special habitat features such as beaches and dunes, talus slopes, meadows, and wetlands.

Unnecessary or undue degradation - Surface disturbance greater than what would normally result when regulated mineral exploration or development is done by a prudent operator in usual, customary, and proficient operations and taking into consideration the effects of those operations on other resources and land uses, outside the area of operations. Failure to initiate and complete reasonable mitigation measures, including reclamation of disturbed areas; or failure to prevent the creation of a nuisance, which may constitute unnecessary or undue degradation. Failure to comply with applicable environmental protection statutes and regulations thereunder will constitute unnecessary or undue degradation.

Ultramafic - Dark-colored igneous rocks composed of minerals which are enriched in iron and magnesium. (See Serpentinite/peridotite.)

Unconsolidated deposits - Sediments that are loosely arranged, with particles that are not cemented together. Includes alluvial, glacial, volcanic, and landslide deposits.

Unstable and potentially unstable areas - Lands that need protection to maintain natural disturbance patterns and functions, prevent increased landslide distribution in time and space (rate and frequency), prevent increased delivery of sediment, and maintain landslide-delivered supply of large woody material over several rotations.

On-site delineation of unstable and potentially unstable areas considers the probability of landslide-triggering storms within the period of minimum root strength and elevated groundwater (as well as slope adjustment to piping changes), and the probability of channel adjustments that trigger streambank and toeslope failures.

Unsuitable habitat - Forested lands that currently do not meet the habitat needs of spotted owls for nesting, roosting, or foraging, but are ecologically capable of doing so. This habitat is deficient in tree size, canopy closure, and/or stand decadence. It results from timber harvest or natural disturbance. Also referred to as potential habitat.

Unsupervised classification - A computer automated technique of pattern recognition that attempts to find statistically similar groups of reflectance values in satellite image data.

Uplift - A structurally high area in the earth's crust, produced by positive, movements that raise or upthrust the rocks.

U.S. Department of Agriculture (USDA) - Federal land management agency whose main mission is multiple use of lands under its jurisdiction.

U.S. Department of the Interior (USD1) - Federal land management agency whose main mission is multiple use of lands under its jurisdiction.

Utility corridor - A linear strip of land identified for the present or future location of utility lines within its boundaries.

Vagility - Capacity of any organism to become widely dispersed.

Verified pair - A pair of spotted owls of specified breeding status identified according to a standard field survey procedure.

Vertical diversity - The diversity in a stand that results from the complexity of the aboveground structure of the vegetation. The more tiers of vegetation or the more diverse the species makeup (or both), the higher the degree of vertical diversity.
(See also Horizontal diversity.)

Viability - The ability of a wildlife or plant population to maintain sufficient size so that it persists over time in spite of normal fluctuations in numbers; usually expressed as a probability of maintaining a specific population for a specified period.

Viable population - A wildlife or plant population that contains an adequate number of reproductive individuals appropriately distributed on the planning area to ensure the long-term existence of the species.

Viewshed - The landscape that can be directly seen from a viewpoint or along a transportation corridor.

Visibility protection plan - A plan that implements the requirements of the Clean Air Act by establishing programs for visibility monitoring short-term and long-term control strategies, and procedures for program review, coordination, and consultation.

Visual resource - The visible physical features of a landscape.

Visual resource management (VRIM) - The inventory and planning actions to identify values and establish objectives for managing those values and the management actions to achieve those objectives.

Visual resource management classes - Categories assigned to public lands based on scenic quality, sensitivity level, and distance zones. There are four classes. Each class has an objective that prescribes the amount of modification allowed in the landscape.

Vital rates - Rates of key demographic functions within a population, such as the birth rate and survival rate.

Water quality - The chemical, physical, and biological characteristics of water

Watershed - The drainage basin contributing water, organic matter, dissolved nutrients, and sediments to a stream or lake.

Watershed analysis - A systematic procedure for characterizing watershed and ecological processes to meet specific management and social objectives. Watershed analysis is a stratum of ecosystem management planning applied to watersheds of approximately 20 to 200 square miles.

Watershed restoration - Improving current conditions of watersheds to restore

degraded fish habitat and provide long-term protection to aquatic and riparian resources.

Water yield - The quantity of water derived from a unit area of watershed.

Well distributed - A geographic distribution of habitats that maintains a population throughout a planning area and allows for interaction of individuals through periodic interbreeding and colonization of unoccupied habitats.

Western Oregon Digital Data Base (WODDB) - A very high resolution (1 inch = 400 feet) geographic digital (computer) data base derived from aerial photography for Bureau of Land Management lands in western Oregon.

West side forests - The 11 National Forests within the range of the northern spotted owl in Washington, Oregon, and California that lie west of the Cascade crest. They are the Gifford Pinchot, Mendocino, Mt. Baker-Snoqualmie, Mt. Hood, Olympic, Rouge River, Siskiyou, Siuslaw, Six Rivers, Umpqua, and Willamette National Forests.

Wetlands - Areas that are inundated by surface water or ground water with a frequency sufficient to support, and under normal circumstances do or would support, a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction (Executive Order 11990). Wetlands generally include, but are not limited to, swamps, marshes, bogs, and similar areas.

Wet meadows - Areas where grasses predominate. Normally waterlogged within a few inches of the ground surface.

Wild and Scenic River System - Those rivers or section of rivers designated as such by Congressional action under the Wild and Scenic River Act (Public Law 90-542, 1968), as supplemented and amended, or those sections of rivers designated as wild, scenic, or recreational by an act of the legislature of the state or states through which they flow. Each designated river may be classified and administered under one or more of the following categories:

1. **Wild River Areas** - Those rivers or section of rivers that are free of impoundments and generally inaccessible except by trail, with

watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

2. Scenic River Areas - Those rivers or sections of rivers that are free of impoundments with watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

3. Recreation River Areas - Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

Wilderness - Areas designated by Congressional action under the 1964 Wilderness Act. Wilderness is defined as undeveloped federal land retaining its primeval character and influence without permanent improvements or human habitation. Wilderness areas are protected and managed to preserve their natural conditions, which generally appear to have been affected primarily by the forces of nature, with the imprint of human activity substantially unnoticeable; have outstanding opportunities for solitude or for a primitive and confined type of recreation; include at least 5,000 acres or are of sufficient size to make practical their preservation, enjoyment, and use in an unimpaired condition; and may contain features of scientific, education, scenic, or historical value as well as ecologic and geologic interest.

Wilderness study area (WSA) - A roadless area inventoried and found to be wilderness in character, having few human developments and providing outstanding opportunities for solitude and primitive recreation, as described in Section 603 of the Federal Land Policy and Management Act and in Section 2(c) of the Wilderness Act of 1964.

Wildfire - Any wildland fire that is not a prescribed fire.

Wildlife tree - A live tree retained to become future snag habitat.

Wild River - See Wild and Scenic River System.

Windfall - Trees or parts of trees felled by high winds. (See also Blowdown and

Windthrow.)

Windthrow - A tree or trees uprooted or felled by the wind.

Withdrawal - A designation that restricts or closes public lands from the operation of land mineral disposal laws.

Woodland - Forest land producing trees not typically used as saw timber products and not included in calculation of the commercial forest land allowable sale quantity.

Yarding - The moving of logs from the stump to a central concentration area or landing.

Yarding of unmerchantable material (YUM) - Moving unmerchantable portions of trees from the stump to a central concentration area.

Yield table - A table of timber volumes expected to be produced under a certain set of conditions.

Young stands - Forest stands not yet mature, generally, less than 50-80 years old; typically 20-40 years old.

Z-test - A statistical test that compares the value of a test statistic (z-value) to the standard normal distribution.